One Rincon Hill Residential Development

DRAFT ENVIRONMENTAL IMPACT REPORT

State Clearinghouse No. 2004062040

San Francisco Planning Department
Case No. 2003.0029E

Draft EIR Publication Date:	**March 5, 2005**
Draft EIR Public Hearing Date:	**April 14, 2005**
Draft EIR Public Comment Period:	**March 5 to April 19, 2005**

Written comments should be sent to:

Rick L. Cooper, Senior Planner
San Francisco Planning Department
1660 Mission Street
San Francisco, CA 94103

PLANNING DEPARTMENT

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DATE: March 5, 2005

TO: Distribution List for the One Rincon Hill Residential Development Draft EIR

FROM: Rick Cooper, Senior Planner

Re: Request for the Final Environmental Impact Report for the One Rincon Hill Residential Development Project (Planning Department File No. 2003.0029E)

This is the Draft of the Environmental Impact Report (EIR) for the One Rincon Hill Residential Development Project at 425 First Street. A public hearing will be held on the adequacy and accuracy of this document. After the public hearing, our office will prepare and publish a document titled "Draft Comments and Responses" which will contain a summary of all relevant comments on this Draft EIR and our responses to those comments. It may also specify changes to this Draft EIR. Public agencies and members of the public who testify at the hearing on the Draft EIR will automatically receive a copy of the Draft Comments and Responses document, along with notice of the date reserved for certification; others may receive such copies and notice on request or by visiting our office. This Draft EIR together with the Draft Comments and Responses document will be considered by the Planning Commission in an advertised public meeting and certified as a Final EIR if deemed adequate.

After certification, we will modify the Draft EIR as specified by the Comments and Responses document and print both documents in a single publication called the Final Environmental Impact Report. The Final EIR will add no new information to the combination of the two documents except to reproduce the certification resolution. It will simply provide the information in one rather than two documents. Therefore, if you receive a copy of the Comments and Responses document in addition to this copy of the Draft EIR, you will technically have a copy of the Final EIR.

We are aware that many people who receive the Draft EIR and Draft Comments and Responses have no interest in receiving virtually the same information after the EIR has been certified. To avoid expending money and paper needlessly, we would like to send copies of the Final EIR to private individuals only if they request them. If you would like a copy of the Final EIR, therefore, please fill out and mail the postcard provided inside the back cover to the Major Environmental Analysis Office of the Planning Department within two weeks after certification of the EIR. Any private party not requesting a Final EIR by that time will not be mailed a copy.

Thank you for your interest in this project.

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square-foot, two-story parking garage (plus parking on roof) and surface parking lot that front Harrison Street provide 86 and 54 spaces, respectively, for a total of 140 existing on-site spaces. Existing development on the site totals about 84,000 gsf.

The project sponsor proposes demolition of the site's existing structures and construction of a 720-unit residential condominium development with a total of about 1,217,315 gsf, a net increase of 1,133,399 gsf on the project site. The project would include about 706 residential units in two towers, or 956,065 gsf of residential space as follows: A 450-foot-tall, 45-story north tower would include about 312 units, while a 550-foot-tall, 54-story south tower would contain 354 units. The project would also include a total of 14 stacked 2- and 3-story townhouses, 45 feet in height fronting on Harrison Street and First Street, for approximately 32,060 gsf of residential townhouse space. In total, the project would provide about 988,125 gsf of residential space, including lobbies, management office, a fitness center, and other residential amenities. Mechanical uses would occupy approximately 25,060 gsf. A convenience retail space of 3,220 gsf would be provided in the ground floor of the north tower, at the intersection of Harrison and Fremont Streets.

The bases of the project towers would consist of two to five partial basement levels (due to the slope of the site downward from First Street east to Fremont Street and from south to north from the Bay Bridge West Approach toward Harrison Street). These levels would contain parking, loading, bicycle parking, mechanical equipment, and tenant storage. Parking would also be provided on two additional partial above-grade levels. All parking levels, which would be accessible from the entrance/exit connecting to First Street, would comprise 206,300 gsf. The project would provide 720 parking spaces altogether, with attendants and mechanical car lifts, for which the applicant is seeking approval for non--independently accessible spaces. An off-street loading area at grade and directly accessible from Harrison Street would be able to accommodate four full-size loading spaces.

The project would provide approximately 49,000 square feet of common and private open space for the use of building residents. Common open space would include a landscaped terrace atop the parking level bases and would include a swimming pool and spa. Private open space would include balconies and patios that would be accessed from individual residences. The project also would provide about 19,000 additional square feet of publicly accessible open space, including a widened sidewalk and landscaped areas along Harrison Street and a widened sidewalk and landscaping in the First Street public right-of-way. All or most of the 35 existing on-street parking spaces located in the First Street right-of-way would be eliminated.

The project sponsor is Rincon Ventures LLC, and the project architects are Solomon Cordwell Buenz & Associates Architects, of Chicago and Korth Sunseri Hagey Architects of San Francisco. Project construction would be expected to occur in two, sequential phases and take a total of approximately 48 months. Phase one, which would include demolition of the existing structures and construction of the parking levels, southwest tower and townhouses (together totaling approximately 415 units), would take approximately 28 months, and is planned to open Spring 2007. Phase two, construction of the 305-unit north tower, including retail space, would take an additional 20 months and is planned to commence after completion of the first phase.

The project requires the following approvals: 1) should the proposed *Rincon Hill Plan* and Downtown Residential (DTR) district not be adopted and/or proceed as scheduled, the project sponsor would seek a *General Plan* amendment and rezoning (including a Height/Bulk and use district reclassification) for the site, which would be similar to what is proposed to occur under the draft proposed *Rincon Hill Plan* (including the proposed supplement); 2) should the proposed *Rincon Hill Plan* and DTR be adopted and/or proceed as scheduled, a conditional use authorization or design review may be required; 3) options for compliance with *Planning Code* Section 315, the Residential Inclusionary Affordable Program; 4) subsequent to attainment of planning approvals, and prior to initiation of construction, the project would require issuance of a demolition permit and building permit from the Department of Building Inspection; 5) the project requires a revocable encroachment permit or street improvement permit from the Department of Public Works (DPW), approval from DPW and the Department of Parking and Traffic (DPT) for provision of new curb cuts, new entrance turnaround and drop-off, new entry to parking, and replacement of curbs, gutters, and sidewalks; and 6) approval from Department of Public Work and in coordination with Caltrans for use of the First Street right-of-way. The project sponsor proposes a merger of the site's three lots, approvable by the Department of Public Works

As noted above, the project has been designed to be consistent with and, therefore, approvable under the proposed *Rincon Hill Plan* and DTR district, as described in the November 2003 draft for public discussion, and the *Supplement to the Rincon Hill Draft Plan* published in September 2004. Should the Preferred Option or the 82.5-Foot Tower Separation Option of the proposed *Rincon Hill Plan* and DTR district be disapproved or not proceed as currently scheduled, the project sponsor would independently seek a *General Plan* amendment and rezoning (including a Height/Bulk district reclassification, as noted above) for the site, consistent with what the Draft *Rincon Hill Plan* (including the proposed supplement) proposes specifically. If necessary, this *General Plan* amendment and rezoning would change the provisions of the current Rincon Hill Special Use District (*Planning Code* 249.1) as they apply to the site concerning open space and residential density and non-individually accessible parking access, increase the site's two height limits (from 200 feet to 450 feet on the northern portion of the site and from 84 feet to 550 feet on the southern portion), and modify bulk controls. These changes would require a *General Plan* amendment, approvable by the Planning Commission and the Board of Supervisors. They would also require a *Planning Code* zoning map change and a zoning text change, including approval by the Planning Commission, approval by the Board of Supervisors, and signature by the Mayor.

C. MAIN ENVIRONMENTAL EFFECTS

This EIR for the One Rincon Hill Residential Development project focuses on the following topics: land use, visual quality/urban design, cumulative population (growth inducement), shadow, wind, transportation, air quality and cultural (historic architectural) resources. All other potential environmental effects were found to be less than significant or to be mitigated to a less-than-significant level with mitigation measures to be implemented by the project sponsor (please see the Initial Study, included in this document as Appendix A, for analysis of other environmental topics). In addition, this EIR discusses land use in detail for informational purposes.

LAND USE (page 20)

The project site is situated in the Rincon Hill neighborhood, two blocks to the south of the proposed Transbay Redevelopment Project area, within one block north of the *Rincon Point-South Beach Redevelopment Plan* area, and four blocks west from San Francisco Bay. The South of Market neighborhood is to the south and west of the project site, beyond the Rincon Hill area.

Land uses in the vicinity of the project site are largely high-density residential, but also include retail, office, light industrial, institutional uses, and major transportation facilities. Much of Rincon Hill is in transition from a low-rise and mid-rise industrial district with surface parking to a predominately high-rise, high-density residential district. Land uses in the immediate neighborhood (within a block) of the project site are a mix of residential, institutional, transportation infrastructure, parking, and light industrial uses. The project's proposed residential use would not be a new use in the immediate vicinity.

The project, which would introduce residential and retail uses to the project site and increase parking on the site, would result in an increase in intensity relative to the existing land use. The project would be compatible with existing and planned uses in the vicinity, and both the existing Rincon Hill Special Use District (SUD) and proposed Rincon Hill DTR district, currently under environmental evaluation by the Planning Department, envision high-rise, high-density residential development in this neighborhood. The project would be developed within the existing block configuration and therefore would not disrupt or divide the neighborhood, nor would it have a significant, adverse effect on neighborhood character. As such, there would be no significant project-specific land use effects.

Regarding cumulative land use impacts, development foreseen under the proposed amendment to the *Rincon Hill Area Plan*, coupled with the currently proposed *Transbay Redevelopment Plan*[1], would ultimately lead to a more intense urban character of both areas. If the full package of proposed planning controls were implemented, the mix of land uses would bridge the predominately high-density, intensive commercial uses to the north in the downtown core with a mix of residential, commercial, support and open space uses in the *Transbay Redevelopment Plan* area, giving way to predominately high-density residential uses in the vicinity.

In general, the proposed project would continue the development of Rincon Hill as a primarily residential neighborhood, consistent with the trend since the adoption of the existing *Rincon Hill Area Plan* in 1985. The proposed project would be consistent with the development over the last few years, as well as the existing *Rincon Hill Area Plan* and the proposed *Rincon Hill Plan*, which would implement separation between towers and provide neighborhood services and amenities. Implementation of the Rincon Hill DTR district and the Transbay Terminal Redevelopment project would have the cumulative effect of intensifying land uses in currently underdeveloped areas of the city adjacent to downtown. The project would result in about 720

[1] The *Transbay Redevelopment Plan* is currently being reviewed by the Board of Supervisors for approval (Board of Supervisors will hold a hearing on adopting the Transbay Redevelopment Plan on March 29, 2005; however, it is not known if the Board of Supervisors will vote on that date to adopt the plan.. It is expected that the *Transbay Redevelopment Plan*, as currently proposed or as amended by the Board of Supervisors, would be approved in the near future.

dwelling units, out of the about 2,200 units of cumulative new development under the proposed *Rincon Hill Plan*. Buildout of the *Rincon Hill Area Plan* would produce a change in the character of the area, but the change would be in keeping with City goals.

The project would neither disrupt or divide the physical arrangement of an established community, nor would it have a substantial adverse impact on the existing character of the vicinity; the proposed development would represent continuation of existing City-encouraged development trends in that both the Rincon Hill and Transbay areas and, therefore, cumulative land use impacts would be less than significant.

VISUAL QUALITY/URBAN DESIGN (page 46)

A general pattern of densely clustered high-rise development in the downtown core, tapering off to low-rise development at its periphery, characterizes San Francisco's skyline in the greater project vicinity. A range of building heights in the downtown creates gaps, peaks, dips and variety within this pattern, allowing taller buildings and building tops to stand out in profile against the sky. Comparatively low buildings along the waterfront contribute to the tapering of height with the decrease of elevation from hilltops to water that is characteristic of San Francisco; this pattern emphasizes views of the Pacific Ocean and the Bay. In the project vicinity, the transition from inland to the waterfront is similarly marked by a gradual stepping down of heights, as is recommended by the *Waterfront Land Use Plan, Rincon Hill Area Plan* and the *Urban Design Element* of the *General Plan.*

The visual character of the immediate project vicinity is varied. It is primarily defined by the Bay Bridge West Approach, which acts as a visual barrier to the south, and mid-rise residential development to the east. Further high-rise development is envisioned for this area as called for in the proposed *Rincon Hill Plan* and proposed DTR district. The low-rise but prominent Sailor's Union of the Pacific building, located directly across Harrison Street from the project site, visually anchors the corner of First and Harrison Streets. To the east of the Sailor's Union building are low-rise, early- to mid-Twentieth Century buildings on both sides of Fremont Street. The immediate vicinity is also visually defined by transportation infrastructure facilities. The project site is situated between the First Street on-ramp and Harrison Street off-ramp, to the west and east, respectively; located at the crossroads of eastbound access to the Bridge, the Harrison and First Streets intersection; and abuts the Bay Bridge West Approach to the south.

The site is occupied by an approximately 50 feet tall, three-story office building (plus a penthouse), which includes a triangular 183-foot-tall signature clock tower; a two-story garage (plus parking on rooftop) (approximately 35 feet tall on Harrison Street); and surface parking, all in a complex set against the hill that rises along First Street. The project would visually change the project site as it would demolish the existing structures and surface parking, and construct a new residential development including two towers of 450 feet and 550 feet tall (44 and 54 stories) in their place.

The proposed development would differ visually from the existing structures in height, mass, and architectural style. There is a wide range of building styles in the area, especially amongst the mid- and high-rise residential towers that have recently been constructed or proposed for development in the Rincon Hill area. The project would be contemporary in style and would have a greater proportion of glass to solid materials than most of the buildings in the vicinity. Construction of the project would intensify both height and density on the project site. The project's 450- and 550-feet towers would also be taller than other high-rise buildings in the project vicinity, such as two recently approved projects (201 Folsom Street and 300 Spear Street) that include tower heights ranging from 350 to 400 feet. The project would be within the general height range of buildings closer to Market Street (like 45 Fremont Street at 475 feet and 50 Fremont Street at 600 feet). The project would be prominently atop Rincon Hill. The project would respond to the existing *Rincon Hill Area Plan* Urban Design Objective 9 that calls for development "To respect the natural topography of the hill and follow the policies already established on the urban design element which restrict height near the water and allowed increased height on the top of hills." The project height would accentuate the highest point of Rincon Hill.

The project would be consistent with the proposed *Rincon Hill Plan* amendment, including the *Draft for Public Discussion*, and *Supplement to the Rincon Hill Draft Plan*, which call for heights that correspond to topography, including taller buildings on tops of hills, and propose height limits of 450 and 550 feet for the project site.

The project would result in a change in scale of the proposed high-rise towers compared to the surrounding buildings in the immediate neighborhood. Assuming that development of other high-rise buildings occurs in the Rincon Hill and Transbay areas consistent with the draft proposed *Rincon Hill Plan* and *Transbay Redevelopment Plan*, the project would, with other new high-rise structures, create a new urban form South of Market. The project would become part of this form.

The project would be prominent in certain long-range views. The project towers' partial blockage of the Bay Bridge towers would stand out in panoramic views of the east edge of the City from points westward, including some blockage of views of the Bay Bridge towers from certain angles. Project obstruction of long-range views would occur over a limited visual field in a given view and the obstructed views would be available from other vantage points. The project would not substantially affect the rest of the panorama. Short-range and mid-range views would be preserved along streets within the vicinity; view corridors along existing streets in the vicinity would remain unobstructed, especially in terms of long-range views of the Bay or hills that are currently available along these corridors. The project would demolish an existing building complex that is a visual landmark to many San Franciscans, commuters, and visitors. The project would not conform to the current 200-R and 84-X Height and Bulk Designations for the site in the *Planning Code* and would require a zoning reclassification, if the *Rincon Hill Plan* amendments and rezoning are not adopted; zoning reclassification would include at least two public hearings.

The San Francisco Planning Commission must consider how, on balance, the project responds to the goals and policies of the *General Plan*. Urban design is also, by nature, subjective. Several urban design approaches for Rincon Hill are presently under consideration. The environmental review process is proceeding (*Rincon Hill Plan EIR*, Case No. 2000.1081E), and these approaches will be considered by decision makers during the approval process for the *Rincon Hill Plan* amendments.

In summary, the project would replace the older, shorter buildings on the site with two towers that would represent a dramatic change in scale at the site. The project would contain a number of design elements: the 450 and 550 foot towers; the podium level above parking; and the 45-foot-tall townhouses between the towers. The project would conform to objectives and policies of the Urban Design Element and the existing *Rincon Hill Area Plan*, including tall, slender towers on the tops of hills and tower separation. The proposed tower heights would also conform to the proposed *Rincon Hill Plan* amendments. Although the project would stand out amongst neighboring existing and proposed developments, it would conform to current and proposed urban design objectives and policies of the *General Plan* for the project site. The project therefore would not have a substantial, demonstrable negative aesthetic effect. In light of the above discussions of views and view corridors, the project would not substantially degrade or obstruct any scenic view or vista.

With regard to cumulative impact, the project would not have a substantial, demonstrable, negative aesthetic effect once other highrises in the *Rincon Hill Plan* area and the *Transbay Redevelopment Plan* area are constructed and the urban form around the project is created. The project would appear more contextual, although still prominent. If cumulative development were not to proceed as planned, project impacts would fall under the project-specific impact discussed above. For these reasons, the project's contribution to the cumulative impact would be less than significant.

The construction of the project, particularly its two tall towers that would be located near or adjacent to the Bay Bridge West Approach, would have the potential for resulting in glare that could affect motorists on Interstate 80 (I-80). I-80 is maintained by and is under the jurisdiction of Caltrans. Caltrans does not have specific standards or Best Management Practices with regard to this particular issue.[2] The project would comply with Planning Commission Resolution 9212, which prohibits the use of mirrored or reflective glass. Therefore, the project would comply with applicable regulations pertaining to glare. According to the project architect, the buildings would be designed with low reflectivity coated "vision" glass (glass that is appropriate for looking through in a residence). The project would also result in additional light at the project site, including nighttime illumination and outdoor lighting typical of high-rise residential buildings in the City. These elements would be chosen to minimize glare. In view of the above, the project would not have the potential to cause significant light or glare.

SHADOW (page 69)

The project would result in net increases of shadow on streets and sidewalks in the vicinity of the project site, including along Harrison and Folsom Streets between Essex Street and San Francisco Bay and along First, Fremont, and Beale Streets between just south of Harrison Street and just south of the Transbay Terminal. New shadow that would result from other nearby proposed projects (325, 375, and 399 Fremont) currently under environmental review by the City would have a similar range but would add less new shadow than would the project.

The project would not create net new shadow on any public open space subject to *Planning Code* Section 295, which prohibits significant new shadow on open space under the jurisdiction of, or to be acquired by the

[2] Telephone conversation between Joshua Hohn, Planner, EDAW and Dave Stow, Senior Architect, Caltrans, June 28, 2004.

Recreation and Park Commission. The project would not create net new shadow on Rincon Park, a public open space not subject to Section 295, or any nearby publicly accessible private open spaces, including those at the GAP Inc. Building (located between Spear Street and The Embarcadero south of Howard Street) and Hills Plaza (located between Spear Street and The Embarcadero south of Folsom Street). The project would cast new shadow on an existing Caltrans lot at the southeast corner of Harrison and Fremont Streets identified as a potential park in the proposed *Rincon Hill Plan*. This park plan is at an early concept level of planning and has not been approved or funded; thus, its status is unknown and is not subject to Section 295. In view of the above, project shadow would not have a significant impact.

WIND (page 88)

Wind tunnel tests were conducted for the project under several scenarios, including the Existing Setting; Existing Plus Project conditions; and three cumulative scenarios: Cumulative Scenario 1, which includes developments under formal review; Cumulative Scenario 2, with development according to the Preferred Option of the draft *Rincon Hill Plan*; and Cumulative Scenario 3, comprising developments in the draft *Rincon Hill Plan*'s option with 82.5-foot tower separations and height and bulk limits developed in September 2003 .

Based on the results of the wind tunnel studies, the 11 miles per hour (mph) pedestrian comfort criterion would be exceeded under the Existing-plus-Project scenario at 15 publicly accessible pedestrian locations, including the vacant lot across the Harrison Street off-ramp from the project site where the draft *Rincon Hill Plan* has identified a potential public park site. In addition, new exceedances would occur at four of five new locations on the project site. This is a net increase of 3 locations over Existing Setting. Average wind speeds on public sidewalks and open spaces associated with the project would range from 6 to 21 mph, compared to 7 to 19 under Existing Setting. Exceedance of wind comfort criterion would be considered a less-than-significant environmental impact.

The project, with the incorporation of proposed wind-reducing features would eliminate the existing exceedance of the City's wind hazard criterion, with a duration of 2 hours per year, on the south side of Harrison Street, at the bridge that spans Beale Street. Compared to Existing Setting conditions, the project would eliminate the existing hazard criterion exceedance while adding no new exceedances at publicly accessible pedestrian locations. The impact is less than significant.

With regard to test point locations that are not public pedestrian areas, the project would result in two hazard exceedances on the project terrace (for 26 hours and 131 hours per year) and contribute to one exceedance on the Bay Bridge West Approach (for 6 hours per year). These three exceedances would not occur in public pedestrian spaces regulated by *Planning Code* Section 249.1(b)(3) and would not be considered a significant impact. In view of the above, the project would not have a significant project-specific impact.

Under Cumulative Scenario 1 (development under review), the average wind speed for all test points combined would increase, compared to Existing Setting conditions and to Existing-plus-Project conditions. Wind speeds in public pedestrian areas would range from 8 to 20 mph. The highest wind speeds in the vicinity (21 mph) would be on the project terrace. The next highest would be at the northeast corner of the project site (southwest corner of Fremont and Harrison Streets intersection) and in front of the Sailors Union of the Pacific building (northeast corner of Harrison and First Streets intersection). Cumulative Scenario 1 would result in no net increase or decrease of wind comfort exceedances as compared to project (Existing-plus-Project) conditions.

For Cumulative Scenario 2 (the Preferred Option) and Cumulative Scenario 3 (82.5-foot tower separation), the average wind speed for all test points would also decrease slightly relative to Existing-plus-Project conditions; however these cumulative scenarios would result in a net decrease of two and one wind comfort exceedances, respectively, as compared to three exceedances with Existing-plus-Project conditions. All three cumulative scenarios would increase wind speed to above the wind hazard criterion at locations that are not publicly accessible to pedestrians and would cause exceedances of the wind comfort criteria, these environmental impacts are not considered to be significant.

With the incorporation of wind-reducing features, the project would increase wind speed but would not cause exceedances of the *Planning Code* wind hazard criterion at any public pedestrian locations under the Cumulative Scenario 1. Under Cumulative Scenario 2, the overall duration of exceedance is 2 hours long, the same as under Existing Setting conditions, and 2 hours longer than under Existing-plus-Project scenario. Under Cumulative Scenario 3, the exceedance duration is one hour, which is one hour more than Existing-plus-Project scenario and one hour less than Existing Setting conditions. For all three cumulative scenarios, the durations of exceedance of the wind hazard criterion would be the same or less than under Existing Conditions. For this reason, the cumulative impact would be less than significant.

TRANSPORTATION (page 97)

The transportation system in the project vicinity is most heavily used during the p.m. peak period (generally 4:00 to 6:00 p.m.). Therefore, this EIR analyzes transportation impacts during the peak hour within the p.m. peak period.

The project would generate about 258 inbound and 115 outbound vehicle trips during the weekday p.m. peak hour. Under the Existing-plus-Project conditions, the addition of project-generated traffic would result in a relatively small change in the average delay per vehicle at the study intersections, and all seven study intersections would continue to operate at the same levels of service (LOS) as under Existing conditions. The four study intersections that operate at LOS E or F under Existing conditions (Folsom/First, Harrison/Second, Harrison/Essex and Harrison/First) would continue to operate at these unacceptable levels.

At the intersections of Harrison/Essex and Harrison/First, project-generated vehicle trips would not substantially worsen intersection operations. At the Harrison/Second intersection, the project would add 38 vehicles (5.5 percent of total right-turn vehicles) to the northbound right turn, which is a critical movement that operates unsatisfactorily. At the Folsom/First intersection, the project would add 36 vehicles (10.6 percent of the total right-turn volumes) to the eastbound right turn, which is a critical movement that operates unsatisfactorily. The project's contribution of additional traffic to these two intersections would be considered substantial. Because there are no feasible mitigation measures for these effects, they would be significant unavoidable impacts.

To accommodate the proposed the proposed parking entrance/exit within the First Street stub, DPT would be requested by the project sponsor to re-stripe the approach of First Street at Harrison Street. Vehicles exiting the project from First Street onto Harrison Street would be restricted to right turn only during peak travel periods on First Street.

The project would generate about 145 inbound and 43 outbound transit trips during the weekday p.m. peak hour. Of the 43 outbound trips, 22 trips would cross Muni screenlines, 7 trips would cross regional screenlines, and the remaining 14 trips would not cross any screenlines. With implementation of the project, the four Muni screenlines and the three regional transit screenlines would continue to operate below their respective capacity utilization and load factor standards. The new inbound transit trips generated to the project would not substantially affect transit service in the inbound direction. In the immediate vicinity of the project site, the transit lines generally have available capacity during the weekday p.m. peak hour that could accommodate the inbound and outbound transit trips generated by the project. Therefore, the project would not substantially affect transit service, and no significant transit impacts would occur.

As required by the *Planning Code* for the existing Rincon Hill SUD, the project would include a total of 720 parking spaces in an attended parking garage, which would be equipped with mechanical car lifts. Since 360 of the 720 parking spaces would not be independently-accessible, the project would not meet the *Planning Code* requirement that all 720 parking spaces be independently-accessible. The project would meet the parking requirements in the current proposal for the Rincon Hill DTR district, which would allow a maximum residential parking ratio of 1:1 (parking space: unit) and would allow non-independently accessible spaces. The project would eliminate 54 public parking spaces on the surface off-street lot at the intersection of Harrison/Fremont Streets, and up to 35 on-street spaces within the First Street stub.

The project would generate a long-term parking demand for about 923 spaces (920-space residential demand and 3-space retail demand). The long term residential parking demand of 920 spaces would not be accommodated within the project parking supply of 720 parking spaces, which would result in a shortfall of about 200 spaces. This shortfall could be accommodated on-street or in nearby off-street parking facilities that provide overnight parking. During the weekday midday, the residential parking demand is estimated to be about 736 spaces. In addition, there would be a parking demand of 17 spaces associated with the retail uses. It is anticipated that a portion of the 200-space overnight residential parking shortfall would remain parked on-street or in off-street facilities during the day. As such, there would be a shortfall of between 33 parking spaces and 217 parking spaces during the midday period. Based on this shortfall, parking occupancy in the study area would increase from 91 percent to more than 100 percent. With parking facilities operating at 100 percent of capacity, it would be difficult for drivers to find parking in the study area. As a result, drivers may park farther away or may switch to transit, carpool or other forms of travel. Parking deficits are not considered to be significant environmental effects, and the project-generated parking demand would not result in significant environmental impacts.

Overall, the project would add about 640 net new pedestrian trips (188 trips to/from transit and 452 walk/other trips) to the surrounding streets during the weekday p.m. peak hour. These new pedestrian trips could be accommodated on the existing sidewalks and crosswalks adjacent to the project site and would not substantially affect pedestrian conditions. Thus, project-generated pedestrian trips would not cause significant impacts on pedestrian travel in the area.

San Francisco Planning Code Section 155 would require the project to provide 36 bicycle parking spaces for the 720 vehicle parking spaces. The proposed *Rincon Hill Plan* and Rincon Hill DTR district would require one bicycle parking space for approximately every four units. The project would include several proposed secured bicycle storage rooms that would accommodate about 186 bicycles, and would meet current and proposed *Planning Code* requirements. The project-related increase in the number of vehicles in the project vicinity would not be substantial enough to affect bicycle travel in the area, and would not result in a significant environmental impact.

Planning Code Section 152 would require the project to provide three loading spaces; one space would not need to be full-size. The project would provide an off-street loading area that would be accessible from Harrison Street, with four full-sized loading spaces, and thus would meet the existing *Planning Code* loading requirements. The project would also meet the loading requirements in the current proposal for the Rincon Hill DTR district. The proposed loading spaces could accommodate the peak loading demand of two loading spaces. Trucks could be accommodated off-street without backing into or out of the loading area. As a result, project loading would not be expected to impede traffic flow on Harrison Street. It is anticipated that the loading area would be staffed 24-hours a day.

Construction-related activities would occur Monday through Friday from 7:00 a.m. to 3:30 p.m, and on weekends on an as-needed basis. It is anticipated that the sidewalk along the project frontage on Harrison Street would be closed throughout the 48-month construction period, as would the First Street stub south of Harrison Street. The parking lane would become a pedestrian walkway during this time, subject to approval by the Department of Parking and Traffic, in consideration of other construction activities in the vicinity. It is not anticipated that any Muni bus stops would need to be relocated during construction of the project.

Temporary ramp closures associated with the West Approach phase of Caltrans' Bay Bridge seismic retrofit project would affect access to and from the project, during both the project's construction and operation. However, Bay Bridge construction activity is anticipated to be concentrated in the area adjacent to the Bay Bridge span and approach, and is not expected to substantially affect weekday commute traffic operating conditions in the vicinity of the project site.

Future year 2020 Cumulative traffic and transit analyses in this report are based on the projections developed for the South of Market Area for the 300 Spear Street/201 Folsom Street Transportation Study, January 2002. The San Francisco County Transportation Authority countywide travel demand forecasting model was used to develop the traffic and transit forecasts for cumulative development and growth through the year 2020 in the region, as well as to determine travel demand to and from the South of Market Area.

Between 2000 and 2020, Cumulative conditions, weekday p.m. peak hour traffic volumes at the study intersections are anticipated to increase between 15 and 95 percent. Overall, five of the seven study intersections would operate at LOS F under 2020 Cumulative conditions (as compared to four intersections under Existing and Existing-plus-Project conditions). In general, the LOS F operating conditions would occur along the primary access routes to the Bay Bridge, including First and Harrison Streets, and the intersections of Folsom/First, Harrison/First, Harrison/Essex, Harrison/Second and Harrison/Fremont.

The project's contribution to the five study intersections that would operate at LOS F during the weekday p.m. peak hour would range between 5.2 and 43.1 percent of the traffic growth at the particular intersections. The project trips would make a considerable contribution to the significant cumulative traffic impacts at the intersections of Folsom/First and Harrison/Second. Because there are no feasible mitigation measures for these intersections, the project's contribution to these cumulative impacts would be significant and unavoidable.

Under 2020 Cumulative conditions, three of the four Muni screenlines would operate at less than capacity; the Southeast screenline would operate at capacity. In addition, each regional transit operator would continue to operate within its load factor standard, except BART to the South Bay. The project would contribute less than one percent to the cumulative Muni and regional transit ridership, and would not substantially affect the peak hour capacity utilization of each screenline. Therefore, the project would not have a significant environmental impact on transit under 2020 Cumulative conditions.

AIR QUALITY (page 119)

The project would contribute to local and regional air emissions primarily from project-generated traffic. Project-generated vehicle trips would emit about 33.3 pounds per day of reactive organic gasses (ROG), 29.3 pounds per day of nitrogen oxides (NOx), and 24.7 pounds per day of inhalable fine particulates (PM_{10}). None of these emissions levels would reach the 80 pounds per day threshold established by the Bay Area Air Quality Management District (BAAQMD). Project-related daily emissions would be below BAAQMD significance threshold assuming full project development in 2005, and the project would be below the thresholds by a wide margin by the 2020 horizon year. Therefore, project-related increases in air emissions would have a less-than-significant impact on regional air quality.

State and federal one-hour ambient standards for CO are not currently violated during worst-case atmospheric conditions and would not be violated with the addition of the project. Maximum one-hour microscale CO exposure would be 6.4 parts per million (ppm) under Existing-plus-Project conditions, well under the most stringent one-hour CO standard of 20 ppm. Therefore, project-related emissions would have a less-than-significant impact on local air quality.

With the anticipated continuing effect of ongoing state and federal vehicle emissions reductions programs, which are expected to result in a continuing decline in carbon monoxide emissions, it is not anticipated that local concentrations of carbon monoxide from Bay Bridge West Approach traffic would adversely affect residential receptors on the project site.

The project would locate residents, who would be sensitive receptors, approximately 75 feet from the centerline of the heavily traveled Bay Bridge West Approach. Heavy-duty diesel engines in trucks and buses traveling on the Bay Bridge West Approach would generate diesel particulate matter, which is a toxic air contaminant. Because the lifetime incremental cancer risk associated with diesel particulate would be below the Bay Area Air Quality Management District threshold for incremental cancer risk, the proposed project would result in a less-than-significant air toxic emissions impact on project site residents.

Regarding cumulative effects, all regional emissions standards are expected to be met with a wide margin by 2020: ROG, NOx, and PM_{10} emissions each would be no more than 21.5 pounds per day, compared with a threshold of 80 pounds per day. Maximum one-hour microscale CO exposure would be less than 6.5 ppm under cumulative conditions, well under the most stringent standard of 20 ppm. Therefore, the project would have less-than-significant contributions to cumulative regional air quality effects, based on BAAQMD significance thresholds.

HISTORIC ARCHITECTURAL RESOURCES (page 131)

The Union Oil Company Building is a 62,240-square-foot, three-story, steel-frame and reinforced concrete office building complex consisting of three major parts: an office building (plus penthouse), a clock tower, and a parking structure. The Union Oil Company Building was originally constructed in 1940-41, altered and expanded with a new, relocated clock tower and parking garage in 1953-55, and then again altered in 1995. The primary façade faces west onto the 400 Block of First Street. The south wall faces the Bay Bridge West Approach. The east wall faces the Harrison Street (formerly Fremont Street) off-ramp. The north wall, which is mostly composed of the parking garage, abuts Harrison Street. Façade materials include terra cotta panels, roman brick, stucco, painted concrete, porcelain enameled metal paneling, and glass block. The roof is flat and the windows are either glass block or aluminum multi-lite awning sash.

The Union Oil Company Building is one of a handful of architecturally important transitional Streamline Moderne/International Style office buildings in San Francisco. It is significant as an early example of an automobile-scaled, programmatic office building in San Francisco and one of a handful built by a private corporation in San Francisco during the waning years of the Depression. It was also one of the only major corporate office buildings to be built outside of the Financial District in its time. Designed and built in 1940-41 by prominent San Francisco architect, Lewis P. Hobart, and expanded in 1953-55 according to compatible designs drawn up by architect Ralph N. Kerr, the Union Oil Company Building is also significant as a programmatic building whose tower over time greeted generations of commuters.

The Union Oil Company Building has received high ratings in architectural surveys over the past three decades and appears to be individually eligible for listing in the *California Register of Historic Resources* under Criterion 3 (Architecture) as determined by the Lead Agency for the purposes of CEQA. The proposed demolition would constitute a substantial adverse change in the significance of an historic architectural resource, under CEQA Guidelines (Section 15064.5(b)(2)(c)), and would, therefore, be considered a significant environmental impact under CEQA. Implementation of Mitigation Measure 4 would reduce the effects of demolition by documenting the building. This mitigation, however, would not reduce the effects to a less-than significant impact. Therefore, demolition of the Union Oil Company Building is considered a significant, unavoidable impact, a finding that is consistent with that made in the *Rincon Hill Plan Draft EIR*.

Demolition of the Union Oil Company Building would remove one of the eight buildings identified as significant and worthy of preservation in the 1985 *Rincon Hill Area Plan*. Aside from the Union Oil Company Building, six of the seven other buildings identified as being significant in Rincon Hill have either been preserved or adaptively reused. The project site is not located within a designated historic district. The ongoing demolition of historic buildings within the Rincon Hill area is changing the overall character of the neighborhood from a concentrated industrial/maritime-related district, as it evolved between the 1906 Earthquake and the Second World War, into a high-rise and predominantly residential district. While the majority of the buildings intended for demolition are in most cases not individually significant, the cumulative effect of demolishing older buildings would alter the area's character. The demolition of this building, along with the demolition of other older potentially significant buildings in the Rincon Hill area could have a negative cumulative effect on historic properties in the Rincon Hill area. This building being one of eight significant buildings identified in the *Rincon Hill Plan* makes its demolition contribute to this cumulative impact. According to the historic resources consultant, demolition of the Union Oil Company Building would have a significant and unavoidable cumulative impact in that it would demolish one of a limited stock of major transitional Streamline Moderne/International Style office buildings in San Francisco. However, Planning Department preservation staff believes that the combination of these styles, in the way they are applied to the Union Oil Company Building, is unique and contributes to its individual rather than cumulative impact. As discussed above, the project would have a significant cumulative impact, but not on this basis.

GROWTH INDUCEMENT (page 150)

Based on employment density factors, the project is estimated to employ about 26 employees. At full occupancy the existing vacant building on the site could have accommodated approximately 276 office employees. As such, the project would result in a net decrease of about 250 jobs on the site relative to the number of jobs the existing building on the site could support. However, because the existing building complex on the site is currently vacant, the project would result in an increase of 26 jobs on the site relative to current conditions. The net increase in employment would be less than 0.004 percent of total employment of 731,660 jobs by 2020 in San Francisco, and less than 0.03 percent of employment growth of 102,800 jobs projected for the period between 2000 and 2020 for San Francisco.

Based on a household density factor of about 1.4 persons per dwelling unit in use in San Francisco, the proposed residential units would accommodate approximately 1,008 people. The City is projected to need 20,372 additional dwelling units by 2006, an average yearly need of about 2,716 net new dwelling units, in the Association of Bay Area Governments' *Housing Needs Determination*. The project would not create substantial demand for new housing and its 720 residential units would more than offset housing demand from project-related employment.

The project would be an infill project in a densely developed urban area. It would not require new or expanded municipal infrastructure not already under consideration. In view of the above, the project would not have a significant growth-inducing impact.

D. MITIGATION MEASURES (page 153)

Mitigation measures have been identified in this EIR that would reduce or eliminate potential significant environmental impacts of the project. Mitigation measures for construction air quality, hazards, and archaeological resources were listed in the Initial Study. The project would result in significant project-specific traffic impacts and would considerably contribute to cumulative traffic impacts. However, due to the nature of the traffic impacts and street geometries, there are no feasible mitigation measures that would improve conditions at the affected intersections for a less-than-significant level of impact and, therefore, no mitigation or improvement measures are proposed. A mitigation measure is identified herein that would partially offset the significant historic architectural impacts of the project. Because destruction of the historic structures could not be avoided with the project, these impacts would remain significant and unavoidable even with this mitigation measure. Some mitigation measures may be the responsibility of other agencies. Other measures may be required by decision makers as conditions of project approval if the project is approved.

Mitigation measures identified in this report are provided below along with their status. Implementation of these measures would reduce other impacts to less-than-significant levels, except for the historic architectural impact. An asterisk (*) denotes mitigation measures identified in the Initial Study.

Construction Air Quality*

1. To reduce particulate emissions, the project sponsor shall require the contractor(s) to spray the project site with water during demolition, excavation and construction activities; sprinkle unpaved exterior construction areas with water at least twice per day, or as necessary; cover stockpiles of soil, sand, and other material; cover trucks hauling debris, soil, sand or other such material; and sweep surrounding streets during demolition excavation and construction at least once per day. *Ordinance 175-91*, passed by the Board of Supervisors on May 6, 1991, requires that non-potable water be used for dust control activities. Therefore, the project sponsor would require that the contractor(s) obtain reclaimed water from the Clean Water Program for this purpose.

   The project sponsor shall require the project contractor(s) to maintain and operate construction equipment so as to minimize exhaust emissions of particulates and other pollutants, by such means as prohibiting idling motors when equipment is not in use or when trucks are waiting in queues, and implementing specific maintenance programs to reduce emissions for equipment that would be in frequent use for much of the construction period.

Hazards*

2. <u>Step 1: Preparation of a Site Mitigation Plan</u>

Soil and groundwater samples shall be characterized (analyzed) for metals, petroleum hydrocarbons and gasoline/diesel components, volatile and semi-volatile organic compounds, and/or other constituents, as requested by the Department of Public Health (DPH). In addition, groundwater characterization shall be carried out for total suspended solids, total settleable solids, pH, total dissolved solids, and turbidity. Samples shall be analyzed by State-accredited laboratories. Based on the results of soil and groundwater characterization, a Site Mitigation Plan shall be prepared by a qualified individual, in coordination with DPH and any other applicable regulatory agencies. The sampling and studies shall be completed by a Registered Environmental Assessor or a similarly qualified individual. Excavated soils shall be disposed of in an appropriate landfill, as governed by applicable laws and regulations, or other appropriate actions shall be taken in coordination with DPH.

<u>Step 2: Site Health and Safety Plan</u>

Prior to conducting any remediation activities, a Site Health and Safety Plan would be prepared pursuant to California Division of Occupational Safety and Health guidance to ensure worker safety. Under CAL-OSHA requirements, the Site Health and Safety Plan would need to be prepared prior to initiating any earth-moving activities at the site. The Site Health and Safety Plan shall identify protocols for managing soils during construction to minimize worker and public exposure to contaminated soils. The protocols shall include at a minimum:

- Characterization of excavated native soils proposed for use on site prior to placement to confirm that the soils meet appropriate standards.
- The dust controls specified in Mitigation Measure 1.
- Protocols for managing stockpiled and excavated soils.

The Site Health and Safety Plan shall identify site access controls to be implemented from the time of surface disruption through the completion of earthwork construction. The protocols shall include as a minimum:

- Appropriate site security to prevent unauthorized pedestrian/vehicular entry, such as fencing or other barrier or sufficient height and structural integrity to prevent entry and based upon the degree of control required.
- Posting of "no trespassing" signs.
- Providing on-site meetings with construction workers to inform them about security measures and reporting/contingency procedures.

If groundwater contamination is identified, the Site Health and Safety Plan shall identify protocols for managing groundwater during construction to minimize worker and public exposure to contaminated groundwater. The protocols shall include procedures to prevent unacceptable migration of contamination from defined plumes during dewatering.

The Site Health and Safety Plan shall include a requirement that construction personnel be trained to recognize potential hazards associated with underground features that could contain hazardous substances, previously unidentified contamination, or buried hazardous debris.

The Site Health and Safety Plan shall include procedures for implementing a contingency plan, including appropriate notification and control procedures, in the event unanticipated subsurface hazards are discovered during construction. Control procedures could include, but would not be limited to, investigation and removal of underground storage tanks or other hazards.

Foundation plans and utility plans for the project will be provided to DPH.

<u>Step 3: Handling, Hauling, and Disposal of Contaminated Soils</u>

(a) <u>specific work practices</u>: If, based on the results of the soil tests conducted, DPH determines that the soils on the project site are contaminated at or above potentially hazardous levels, the construction contractor shall be alert to the presence of such soils during excavation and other construction activities on the site (detected through soil odor, color, and texture and results of on-site soil testing), and shall be prepared to handle, profile (i.e. characterize), and dispose of such soils appropriately (i.e., as dictated by local, State, and Federal regulations) when such soils are encountered on the site.

(b) <u>dust suppression</u>: Soils exposed during excavation for site preparation and project construction activities shall be kept moist throughout the time they are exposed, both during and after work hours.

(c) <u>surface water runoff control</u>: Where soils are stockpiled, visqueen shall be used to create an impermeable liner, both beneath and on top of the soils, with a berm to contain any potential surface water runoff from the soil stockpiles during inclement weather.

(d) <u>soils replacement</u>: If necessary, clean fill or other suitable material(s) shall be used to bring portions of the project site, where contaminated soils have been excavated and removed, up to construction grade.

(e) <u>hauling and disposal</u>: Contaminated soils shall be hauled off the project site by waste hauling trucks appropriately certified with the State of California and adequately covered to prevent dispersion of the solids during transit, and shall be disposed of at a permitted hazardous waste disposal facility registered with the State of California.

<u>Step 4: Preparation of Closure/Certification Report</u>

After excavation and foundation construction activities are completed, the project sponsor shall prepare and submit a closure/certification report to DPH for review and approval. The closure/certification report shall include the mitigation measures in the SMP for handling and removing contaminated soils from the project site, whether the construction contractor modified any of these mitigation measures, and how and why the construction contractor modified these mitigation measures.

Archaeological Resources*

3. Based on a reasonable presumption that archaeological resources (most likely, buried remnants of the 1906 fire and subsequent building demolition) may be present on-site, the following measures shall be undertaken. The project sponsor shall retain the services of a qualified archaeological consultant having expertise in urban historical archeology. The archaeological consultant shall undertake an archaeological testing program as specified herein. In addition, the consultant shall be available to conduct an archaeological monitoring and/or data recovery program if required pursuant to this measure. The archaeological consultant's work shall be conducted in accordance with this measure and with the archaeological testing recommendations of the project archaeological resources study (Archaeological Resources Study for 425 First Street, Rincon Hill, San Francisco, Anthropological Studies Center, August 2003) at the direction of the Environmental Review Officer (ERO). The project archaeological resources study is an addendum to the San Francisco-Oakland Bay Bridge, West Approach Replacement: Archaeological Research Design and Treatment Plan (Ziesing 2000). In any instance of inconsistency between the requirements of the project archaeological research design and treatment plan or of the project archaeological resources study and of this archaeological mitigation measure, the requirement of the latter shall prevail. All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Archaeological monitoring and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the ERO, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less than significant level potential effects on a significant archaeological resource as defined in CEQA Guidelines Section 15064.5 (a)(c).

   Archaeological Testing Program. The archaeological consultant shall prepare and submit to the ERO for review and approval an archaeological testing plan (ATP). The project ATP shall be consistent with the testing recommendations of the project archaeological resources study (Anthropological Studies Center. August 2003) that identifies distinct testing strategies for four (4) prioritized Archaeologically Sensitive Areas. The archaeological testing program shall be conducted in accordance with the approved ATP. The ATP shall identify the property types of the expected archaeological resource(s) that potentially could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing. The purpose of the archaeological testing program will be to determine to the extent possible the presence or absence of archaeological resources and to identify and to evaluate whether any archaeological resource encountered on the site constitutes an historical resource under CEQA.

At the completion of the archaeological testing program, the archaeological consultant shall submit a written report of the findings to the ERO. If based on the archaeological testing program the archaeological consultant finds that significant archaeological resources may be present, the ERO in consultation with the archaeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional archaeological testing, archaeological monitoring, and/or an archaeological data recovery program. If the ERO determines that a significant archaeological resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor either:

(a) The proposed project shall be re-designed so as to avoid any adverse effect on the significant archaeological resource; or

(b) A data recovery program shall be implemented, unless the ERO determines that the archaeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.

Archaeological Monitoring Program. The Archaeological Monitoring Program shall be consistent with the recommendations of the Archaeological Resources Study for 425 First Street, Rincon Hill, San Francisco [One Rincon Hill] (August 2003). Whether or not significant archaeological resources are encountered, the archaeological consultant shall submit a written report of the findings of the monitoring program to the ERO.

Archaeological Data Recovery Program. The Archaeological Data Recovery Program shall be consistent with the *San Francisco-Oakland Bay Bridge, West Approach Replacement: Archaeological Research Design and Treatment Plan* (Ziesing 2000).

Human Remains and Associated or Unassociated Funerary Objects. The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and Federal laws. This shall include immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (Pub. Res. Code Sec. 5097.98). The archaeological consultant, project sponsor, and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines. Sec. 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects.

Final Archaeological Resources Report. The archaeological consultant shall submit a Draft Final Archaeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archaeological resource and describes the archaeological and historical research methods employed in the archaeological testing/monitoring/data recovery program(s) undertaken. Information that may put at risk any archaeological resource shall be provided in a separate removable insert within the final report.

Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Major Environmental Analysis division of the Planning Department shall receive three copies of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest in or the high interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.

Historic Architectural Resources

4. The project sponsor shall provide historic documentation of the Union Oil Company Building. A complete survey, to the standards of the Historic American Building Survey (HABS), shall be undertaken prior to demolition. The survey would include a written description and history, large-format photographic recordation and detailed HABS-level drawings to be made to record the building in its present condition. However, according to CEQA Guidelines Section 15126.4(b)(2), documentation of a historical resource, by way of historic narrative, photographs and/or architectural drawings (often HABS-Level), as mitigation for the effects of demolition of the resource will not mitigate the impact to a less-than-significant level. The documentation resulting from the survey shall include the following:

   - A HABS outline report containing written description and historical information

   - Photographic documentation of the Union Oil Company Building. Such documentation shall meet HABS standards of detail and quality for photographic documentation in 4-inches-by-5-inches or 5-inches-by-7-inches photographs and negatives. It shall include the features identified in the historic resources evaluation and shall be keyed to a description in the outline report of the location, condition, and significance of each space or feature.

   - Detailed HABS-level drawings to record the building in its present condition.

   - An appropriately conserved set of the existing architectural drawings of the Union Oil Company Building.

   - A compilation of reproduced photographs, news articles, organizational literature, memorabilia, and other interpretive materials, pertaining to events and activities at the Union Oil Company Building throughout its history, to the extent that such materials are available through the San Francisco Public Library and other sources.

- A display of photographs and interpretive materials concerning the history and architectural features of the Union Oil Company Building shall be installed inside the project in an area accessible to the public.

Copies of the narrative, photographic documentation, and any available architectural drawings of the building shall be submitted to the San Francisco Planning Department prior to, and as a condition of, City issuance of a final Certification of Occupancy for the completed project, dependent on project approval. In addition, the project sponsor shall prepare and transmit the photographs and descriptions of the Union Oil Company Building to the History Room of the San Francisco Public Library, and the Northwest Information Center of the California Historical Information Resource System.

As noted above, the above measure would not reduce the impact to a less-than-significant level. Therefore, a significant unavoidable impact would remain.

E. SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED (page 161)

In accordance with Section 21067 of the CEQA, and with Section 15126(b) of the State *CEQA Guidelines*, impacts that could not be eliminated or reduced to an insignificant level by mitigation measures are identified in this EIR. With implementation of the mitigation measures identified above, potentially significant impacts due to the project individually and cumulatively would be reduced to a less-than-significant level or eliminated, for the topics of Construction Air Quality, Hazards, and Archeological Resources. The significant and unavoidable impacts of the project include the following: (1) project-specific impact – the project would result in significant unavoidable impacts with regard to traffic at local intersections under Existing-plus-Project conditions (at the Harrison Street/Second Street and Folsom Street/First Street intersections); (2) project-specific impact – the project would result in a significant unavoidable impact with regard to historic architectural resources as a result of the proposed demolition of the existing Union Oil Company Building; (3) cumulative impacts – the project contribution to significant cumulative impact would be considerable at the intersections of Folsom Street/First Street and Harrison Street/Second Street; and (4) cumulative impacts – the project's contribution to a significant cumulative impact with regard to historic architectural resources, as a result of demolition of significant and potentially significant buildings in the Rincon Hill area, would be considerable.

F. ALTERNATIVES (page 163)

The alternatives chapter identifies alternatives to the project and discusses the environmental effects associated with the alternatives in comparison to those from the project. The alternatives discussed are: the No Project Alternative, the Existing Zoning Alternative, and the Preservation Alternative. The project sponsor does not have control of other sites in San Francisco of sufficient size and in a location appropriate for development of the project as proposed. No alternative sites have been identified within the City where the project could be constructed that would meet most of the project sponsor's objectives and where the project's significant environmental impacts would be substantially lessened or avoided.

ALTERNATIVE A: NO PROJECT ALTERNATIVE

The No Project Alternative would entail no change to the site, which would remain in its existing condition. The existing Union Oil Company Building, clock tower, and parking garage would not be demolished and no residential and retail space would be constructed. The existing office space on the site could remain vacant, or be reoccupied as office space. The use is not certain, due to current high office vacancy rate in the nearby South of Market area. This alternative would not contain housing.

Under the No Project Alternative, increased population and impacts associated with the project would not occur. Environmental conditions at the site would continue to be as described in the Setting discussions in Chapter III. Land use, visual quality and urban design, shadow, and wind conditions would not change. In contrast to the project, this alternative would not substantially worsen the operations at nearby intersections under near-term or 2020 cumulative conditions and therefore would not result in significant project-level or cumulative transportation impacts.

Because no project excavation would occur, there would be no effect on air quality, potential archaeological resources, geology and soils, hydrology and dewatering, hazards, energy use, or noise. Because no alteration or demolition of the existing structures on the project site would occur, there would be no effects on historic architectural resources, either individually or cumulatively, and the alternative would not result in the significant unavoidable impact on historic architectural resources that would occur with the project. No mitigation measures would be necessary.

ALTERNATIVE B: EXISTING ZONING ALTERNATIVE

This alternative would conform to current zoning of the site, without special authorizations. Like the project, the Existing Zoning Alternative would include demolition of the existing structures on the site. However, this alternative would result in the development of a total of 391 units in one tower, two mid-rise buildings, and townhouses. The tower, which would be located at the corner of Harrison and First Streets, would be approximately 200 feet tall in 18 stories and would include 144 residential units and, like the project, 3,550 sq. ft. of ground-floor retail space. The alternative would also include an 80-foot-tall mid-rise building along Harrison Street with 136 units and a 65-foot-tall mid-rise building along First Street with 96 units. Fifteen townhouses would also be constructed with frontage along Harrison and First Streets. The alternative would include a 391-space parking garage accessed from First Street and a loading area accessed from Harrison Street, like the project. The Existing Zoning Alternative would include 329 fewer housing units than the project. This alternative would also involve similar amount of excavation as the project, due to the similar coverage of the construction area and similar depth of the underground levels.

This alternative would have effects on land use similar to those of the project because it would introduce the same uses to the site; however, development would be less intense, with 391 dwelling units rather than the 720 with the project. This alternative visually would be more consistent with the predominant existing heights (of mid-rise buildings) in the area than the project, due to its shorter buildings and less total volume. The buildings in this alternative would appear bulkier and shorter than the taller, more slender project towers.

Like the project, this alternative would result in the demolition and loss of the Union Oil Building, including the existing clock tower, a familiar visual landmark to many commuters and visitors. This alternative would have less shadow on some sidewalks than the project, with the length in shadow reduced slightly less than in proportion to its reduction in height when compared to the project's 550-foot tall tower. The width of shadow would also be substantially less because this alternative would include only the one tower, rather than two. Similar to the project, Alternative B would result in less-than-significant wind effects.

The Existing Zoning Alternative would generate about 198 net new weekday p.m. peak hour vehicles trips, about 47 percent fewer vehicle trips than the project. While LOS would be the same at these intersections under either scenario, there would be differences in volume-to-capacity.[3] Under this alternative, the volume-to-capacity ratio would increase at three intersections (Folsom/First, Harrison/Second, and Harrison/First), although to a lesser degree than the project. In contrast to the project, this alternative would not substantially worsen operations at the Harrison/Second intersection under near-term and 2020 cumulative conditions and therefore would avoid a significant impact under both project-specific and cumulative scenarios. However, like the project, this alternative would contribute substantially to the First/Folsom intersection under Existing-plus-Project and 2020 cumulative conditions and, therefore, would result in a significant unavoidable project-specific and cumulative traffic impact on the First/Folsom intersection. Parking spaces would be included in this alternative, consistent with the existing *Planning Code* requirement, but would result in a shortfall of 180 spaces during the evening hours and a shortfall of 197 spaces during the weekday midday hours, compared to demand.

As a result of lower traffic volume as compared to the project, this alternative would result in approximately 47 percent less air emissions associated with vehicles and, like the project, would have less-than-significant effects on air quality. Because the residential uses under this alternative and the project would be about the same distance from the Bay Bridge West Approach, the impact associated with emissions generated on Bay Bridge West Approach would be similar and less than significant. Because the Existing Zoning Alternative would result in the demolition of the existing historic structure on the project site, this alternative would result in the same significant unavoidable impact on historic architectural resources as the project. As with the project, the Existing Zoning Alternative would not cause significant population or growth inducement impacts. Effects of the alternative on noise, construction air quality, utilities/public services, biology, geology, water, energy, hazards, and archaeological resources would be similar to the project. Temporary construction-related effects would be similar to that of the project.

Mitigation measures required to reduce potentially significant impacts of this alternative include those regarding construction air quality, hazards, archaeological resources, and historic architectural resources. These mitigation measures are described in detail above and in Chapter IV. In the case of traffic-related unavoidable impacts, no mitigation or improvement measures are feasible.

Alternative B would not meet all of the project's objectives in that it would result in 45 percent fewer residential units than the project and would not produce a reasonable return on investment for the Project Sponsor and its investors.

[3] Volume to capacity ratio is defined as a measure of congestion.

ALTERNATIVE C: PRESERVATION ALTERNATIVE

This alternative would be the adaptive reuse of the existing building complex, including the office building and the clock tower. The Preservation Alternative would thus preserve the existing building complex on the site and construct a residential tower on the existing vacant portion of the site. The tower, which would be located at the corner of Harrison and Fremont Streets, would be approximately 350 feet tall in 35 stories and would include about 255 residential units. Rezoning and adoption of the proposed *General Plan* amendments would be required to permit this building height. The tower would sit atop an approximately 40-foot-tall base and would be set back from the edge of the base approximately 30 feet along Harrison Street and approximately 25 feet along the Harrison Street off-ramp. This alternative would not include retail space and assumes that the existing building's 75,816 square feet of office space would return to office use. Parking would be provided in one at-grade level (36 spaces), three below-ground levels (36 spaces), and the existing two story parking garage (plus parking on rooftop) fronting Harrison Street (86 spaces) for a total of 158 parking spaces. Vehicular access to parking, as well as to two off-street loading spaces, would be from Harrison Street. At 255 units, this alternative would include 465 fewer residential units than the project. This alternative would also involve less excavation than the project, due to the considerably smaller coverage of the construction area.

The residential portion of this alternative would have similar, but less intense effects on land use than the project. The existing office use would remain onsite in the existing office building in contrast to the project. Any alteration of the existing building must meet the Secretary of the Interior's Standards for Rehabilitation.[4] The residential tower that would be constructed with this alternative would be similar to the project buildings in terms of its architectural style and materials; however, it would be substantially shorter and bulkier than the project towers.

With regard to visual quality, and short- and mid-range views, this alternative would appear substantially smaller, particularly as it would include one rather than two towers and that tower would be approximately 100 to 200 feet shorter than the project's 450- and 550-foot-tall towers. From long-range views, this alternative would be much less visible and would visually be more consistent with the predominant existing heights (of mid-rise buildings) in the area due to its shorter building height and less total volume than the project. The alternative would be shorter than called for in the proposed *Rincon Hill Plan* amendments. In contrast to the project, this alternative would not result in the demolition and thus loss of the existing clock tower, a familiar visual landmark to commuters and visitors.

The Preservation Alternative would have less shadow than the project. The total length of shadow cast by this alternative's tower and the existing office building and clock tower would be reduced in proportion to its reduction in height when compared to the two project towers. Shadow would also be substantially less because this alternative would include one tower, rather than two. Similar to the project, Alternative C would result in less-than-significant wind effects.

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4 The Secretary of the Interior defines rehabilitation as "the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values" (see http://www.cr.nps.gov/hps/tps/tax/rhb/stand.htm)

The Preservation Alternative would generate about 136 weekday p.m. peak hour vehicles trips of which 90 would be inbound to the project site and 46 would be outbound, about 60 percent fewer vehicle trips than would be generated by the project. The Preservation Alternative would add vehicles to the same four intersections operating at unacceptable levels under existing conditions that the project would. Like the project, although to a lesser degree, the project would increase the volume-to-capacity ratio (because the LOS would remain the same at these intersections, volume-to-capacity is provided to distinguish the change) at three of those intersections (Folsom/First, Harrison/Second, and Harrison/First). In contrast to the project, this alternative would not substantially worsen operations at these intersections under near-term or 2020 cumulative conditions and therefore would not result in significant project or cumulative traffic impacts. This alternative would generate about 76 new transit trips during the weekday p.m. peak hour, about 60 percent fewer transit trips than would be generated by the project. As with the project, this alternative would have less-than-significant effects on transit.

Parking included in the Preservation Alternative would not meet the existing *Planning Code* requirement for parking. The parking in this alternative would meet the proposed amendments to the *Planning Code* if the proposed DTR district were to be approved as proposed. Under this alternative, there would be a shortfall of 193 spaces during the evening hours and a shortfall of 128 spaces during the weekday midday hours compared to demand. Like the project's parking shortfalls, this would be a less-than-significant impact. Like the project, this alternative would also result in less-than-significant pedestrian, bicycle, and loading impacts.

As a result of lower traffic volumes than the project, this alternative would result in proportionally less air emissions associated with vehicles. Because the residential uses under this alternative would be spaced farther away from the Bay Bridge West Approach, this alternative would result in less exposure of onsite residents to emissions generated on Bay Bridge West Approach. Like the project, this alternative would have less-than-significant effects on air quality. Because the Preservation Alternative would preserve all of the existing structures on the project site, this alternative would not result in the significant unavoidable impact on historic architectural resources that would occur with the project.

As with the project, the Preservation Alternative would not cause significant population or growth inducement impacts. Effects of the alternative on noise, construction air quality, utilities/public services, biology, geology, water, energy, hazards, and archaeological resources would be similar to, and less than, the project, with the implementation of the Construction Air Quality, Hazards, and Archaeological Resources mitigation measures. These mitigation measures are described in detail in Chapter IV. Temporary construction-related parking effects would be less than significant for the project.

Because of the smaller size of the Preservation Alternative compared to the project, it would meet some but not all of the project sponsor's objectives.

The Preservation Alternative would be environmentally superior to the project because it would avoid the significant unavoidable traffic impact and the impact of demolition of the Union Oil Company building, would avoid the significant unavoidable traffic impacts that would occur with the project, and would result in fewer effects in comparison to existing conditions than the project.

G. AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED (page 152)

Based on the EIR scoping meeting and responses to the Notice of Preparation for this EIR, the primary areas of controversy associated with the proposed One Rincon Residential Development project concern: 1) potential cumulative effects, such as traffic, visual quality, noise, and air quality, associated with development of the project along with other proposed development throughout the Rincon Hill neighborhood; 2) the project's potential impacts on visual quality and views; and 3) potential impacts on area traffic congestion.

CHAPTER II

PROJECT DESCRIPTION

The approximately 56,090-square-foot project site, Lots 1, 9, and 15 in Assessor's Block 3765, is located in the Rincon Hill neighborhood of San Francisco on the block bounded by Harrison Street to the north, First Street to the west, the Bay Bridge West Approach to the south, and the Harrison Street off-ramp (formerly Fremont Street off-ramp)[1] to the east[2] (see Figure 1, page 2). This project is sometimes referred to as 425 First Street, for example, in the Rincon Hill Plan EIR (Case No. 2000.1081E). The project sponsor proposes to demolish the existing building complex, including a three-story (plus penthouse), 75,816-square-foot office building and clock tower, two-story (plus rooftop parking), 8,100 square-foot parking garage, and surface parking lot and construct a 720-unit residential condominium development on the site with a total of approximately 1,217,315 gross square feet (gsf), a net increase of approximately 1,133,399 gsf on the project site.

The proposed development would include about 706 residential units in two towers, totaling approximately 956,065 gsf of residential space. The project would also include 14 stacked two- and three-story townhouses totaling approximately 32,060 gsf of residential space. In total, the project would provide about 988,125 gsf of residential space. Mechanical uses would occupy approximately 25,060 gsf. A convenience retail space of approximately 3,220 gsf would also be created at the Harrison and Fremont Streets corner. The project would provide four full-size off-street loading spaces directly accessible from Harrison Street, totaling 7,460 gsf, and the project would provide 720 parking spaces with the use of valet and mechanical car lifts, totaling approximately 206,300 gsf.

A. OBJECTIVES OF THE PROJECT SPONSOR

According to the project sponsor, Rincon Ventures LLC, the One Rincon Hill project is designed to accommodate a portion of the demand for new housing close to downtown that is near transit, jobs, retail services, cultural institutions and regional transportation. Specific objectives of the project sponsor include:

- Provide up to 720 units of high-density housing near downtown and accessible to various modes of public transit, thereby implementing the objectives of the existing and proposed Rincon Hill Area

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[1] This off-ramp, which terminates at the intersection of Fremont and Harrison Streets, is known as the Harrison Street off-ramp. Vehicles head north onto Fremont Street or west onto Harrison Street upon their exit from this off-ramp. There is now a separate Fremont Street exit that brings vehicles directly onto Fremont Street between Folsom and Howard Streets.

[2] City streets south of, and including, Market Street are oriented northwest-southeast (e.g., First, Beale) and northeast-southwest (e.g., Folsom, Harrison). To simplify the discussion, this EIR uses the convention of referring to northwest-southeast streets as north-south and referring to northeast-southwest streets as east-west.

Source: EDAW, Inc.

Figure 1 - Project Location

Plan to convert an underutilized and outmoded industrial and commercial area to a residential neighborhood close to downtown that would contribute significantly to the City's housing supply.

- Replace an underutilized low-rise commercial office building and surface parking lot with new structures that will provide badly needed housing units for the San Francisco market, including the provision of on-site or off-site, below-market-rate units pursuant to the inclusionary housing requirements of Sections 315-315.9 of the San Francisco *Planning Code.*

- If the project proceeds ahead of the proposed *Rincon Hill Plan* amendments, reclassify the Height and Bulk District zoning of the site, consistent with the proposed amendments, to permit one tower of approximately 550 feet and one tower of approximately 450 feet in height (spaced 115 feet apart). The reclassification would substantially increase the number of dwelling units that could be constructed on the project site, compared to that currently allowed by *Planning Code*, while maintaining an adequate distance between the towers and marking the top of Rincon Hill with tall slender towers.

- Create a high quality, well designed development project that incorporates the residential density, height and bulk, tower separation, design, open space, streetscape and other objectives of the proposed *Rincon Hill Plan.*

- Incorporate common and private open space that meets or exceeds *Planning Code* requirements, and locate the project's podium open space amenities at a height no lower than the proposed height of the Bay Bridge approach upon its reconstruction.

- Create a landscaped public open space in a portion of the First Street right-of-way where it dead ends into the Bay Bridge approach in an area of the City lacking public open space amenities.

- Efficiently provide adequate on-site parking and loading to meet the needs of the project.

- Construct a high-quality residential development that produces a reasonable return on investment for the Project Sponsor and its investors and is able to attract investment capital and construction financing.

B. PROJECT LOCATION

The project site is in San Francisco's Rincon Hill neighborhood in the vicinity of the Transbay Terminal and downtown, both situated several blocks to the north. Land uses in the immediate project vicinity are undergoing transition; however, the surrounding uses are high- and lower-density residential, retail, office, light industrial, institutional uses, and major transportation facilities. There are a number of existing residential developments in proximity to the project site, as well as several other developments under construction. Along with these nearby residential buildings, there are also several multi-story office and industrial buildings in the Rincon Hill area. Directly across Harrison Street from the project site to the north is the Sailor's Union of the Pacific building, which contains maritime union functions. The site slopes upward from Fremont Street toward First Street and from Harrison Street toward the Bay Bridge West Approach.

The 56,090-square-foot project site is occupied by a surface parking lot on its eastern side, and a three-story office building (plus penthouse) with a clock tower and a two-story parking garage (plus rooftop parking) on its western portion. The 75,816 gsf vacant office building, covering approximately 36,500 square feet of the project site, was occupied by Bank of America until late 2002. The building's approximately 183-foot-tall triangular clock tower includes a digital clock and signage with the Bank of America logo on each face. The 8,100-square-foot, three-level parking garage and surface parking lot that front on Harrison Street provide 86 and 54 spaces, respectively, for a total of 140 existing on-site spaces. Existing development on the site totals about 84,000 gsf.

The existing Bank of America building complex on the project site, described above, was formerly known as the Union Oil Company Building. The office building was constructed in 1941 and altered in the 1950s and 1990's. It is identified in the *Rincon Hill Area Plan* of the *San Francisco General Plan* (*General Plan*) as a Significant Building, and is one of eight buildings for which the existing *Rincon Hill Plan* indicates "preservation should be encouraged." The San Francisco Citywide 1976 architectural survey rated the building a "4" on a scale of 0 to 5 (with "5" being the highest rating) for architectural merit. The building appears to be individually eligible for listing in the *California Register of Historical Places* for its architectural significance. As noted, the building is proposed to be demolished.

C. PROJECT CHARACTERISTICS

The project would include demolition of the site's existing structures and surface parking lot and construction of a 720-unit residential condominium development on the site with a total of approximately 1,217,315 gsf, a net increase of 1,133,399 gsf on the project site. There would be about 706 residential units in two towers, in approximately 956,065 gsf of residential space, as follows: a 450-foot-tall, 45-story north tower would include about 312 units, while an approximately 550-foot-tall, 54-story south tower would contain about 354 units. These building heights are measured to the top of the residential levels of the towers, in accordance with the height limits established in the *Planning Code.* Atop the residential levels of each tower would be two mechanical levels and a parapet, totaling 42 feet; the mechanical levels and parapet, as designed, would be exempt from the height limit.[3] In total, the north tower would be 492 feet tall and the south tower would be 592 feet tall. The project would also include 14 stacked 2- and 3-story townhouses totaling 45 feet in height, including four on the ground level along Harrison Street, one at the corner of First and Harrison Streets, two on the ground level along First Street, and seven located on top of the ground-level units, totaling approximately 32,060 gsf of townhouse space. In total, the project would provide about 988,125 gsf of residential space, including lobbies, management office, a fitness center, and other residential amenities. Mechanical uses would occupy approximately 25,060 gsf. A convenience retail space of approximately 3,220 gsf would be provided in the ground floor of the north tower at the Harrison and Fremont Street corner. See Figure 2 for a project site plan, Figures 3 through 5 for building floor plans, Figures 6 through 9 for building elevations, and Figure 10 for a building section, on pages 6 through 15.

[3] Planning Code Section 260(b) Height Limits – Measurement. Exemptions.

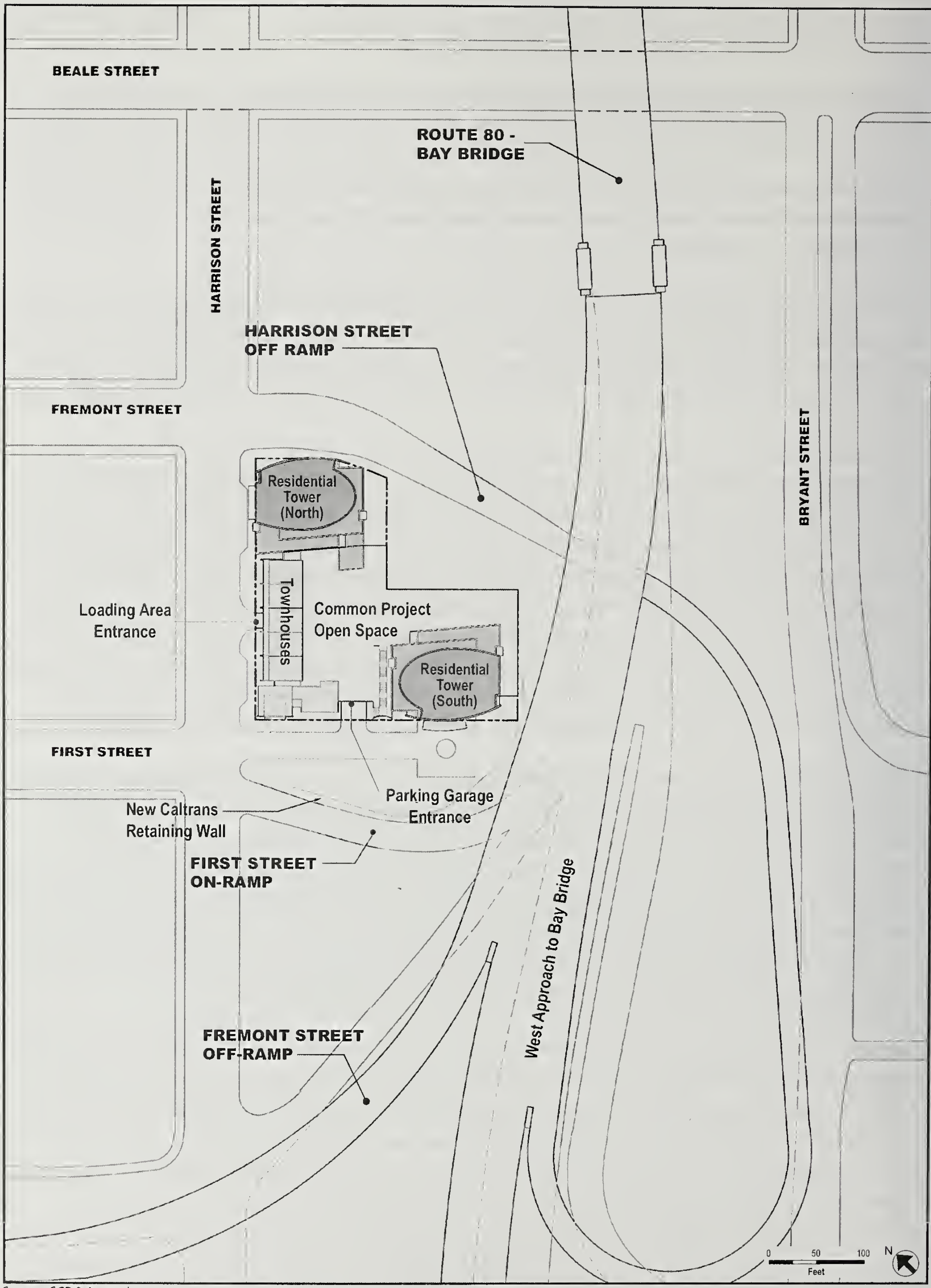
Typical residential tower floors would be about 9,805 gsf and contain eight units in a mix of studio, one-bedroom, and two-bedroom units. The top six floors of each tower would be 8,360 gsf and provide four two- and three-bedroom units each. Townhouse units would each contain two or three bedrooms. Project-wide (towers and townhouses), unit sizes would range from approximately 615 gsf to 2,290 gsf. Altogether, the project would include about 720 units, including approximately 72 studio units, 328 one-bedroom units, 261 two-bedroom units, and 59 three-bedroom units.

The 45-story and 54-story towers would have a uniform massing for most of their heights with a glass and painted aluminum exterior curtain wall construction. The top six stories of each tower would be set back and each tower would have two backlighted mechanical penthouse floors set back further. A parapet would top each tower. Arcades would be located at the base of each tower at street level on Harrison Street and First Street.

The project towers would sit atop one basement level (Level B-1), four partial basement levels (due to the slope of the site downward from First Street to Fremont Street and from south toward Harrison Street), and one above-basement level (at-grade on First Street) containing parking, loading, bicycle parking, mechanical equipment, and tenant storage. With proposed valet parking and mechanical car lifts, the parking levels, accessible from the First Street entrance/exit, would provide 720 parking spaces in approximately 206,300 gsf. The *Planning Code* (Section 151) currently requires 720 spaces for the project (one independently-accessible space for each dwelling unit), of which 29 would be required to be handicapped-accessible (one space for every 25 parking spaces). A 7,460-square-foot, off-street loading area directly accessible from Harrison Street would be able to accommodate four full-size loading spaces.

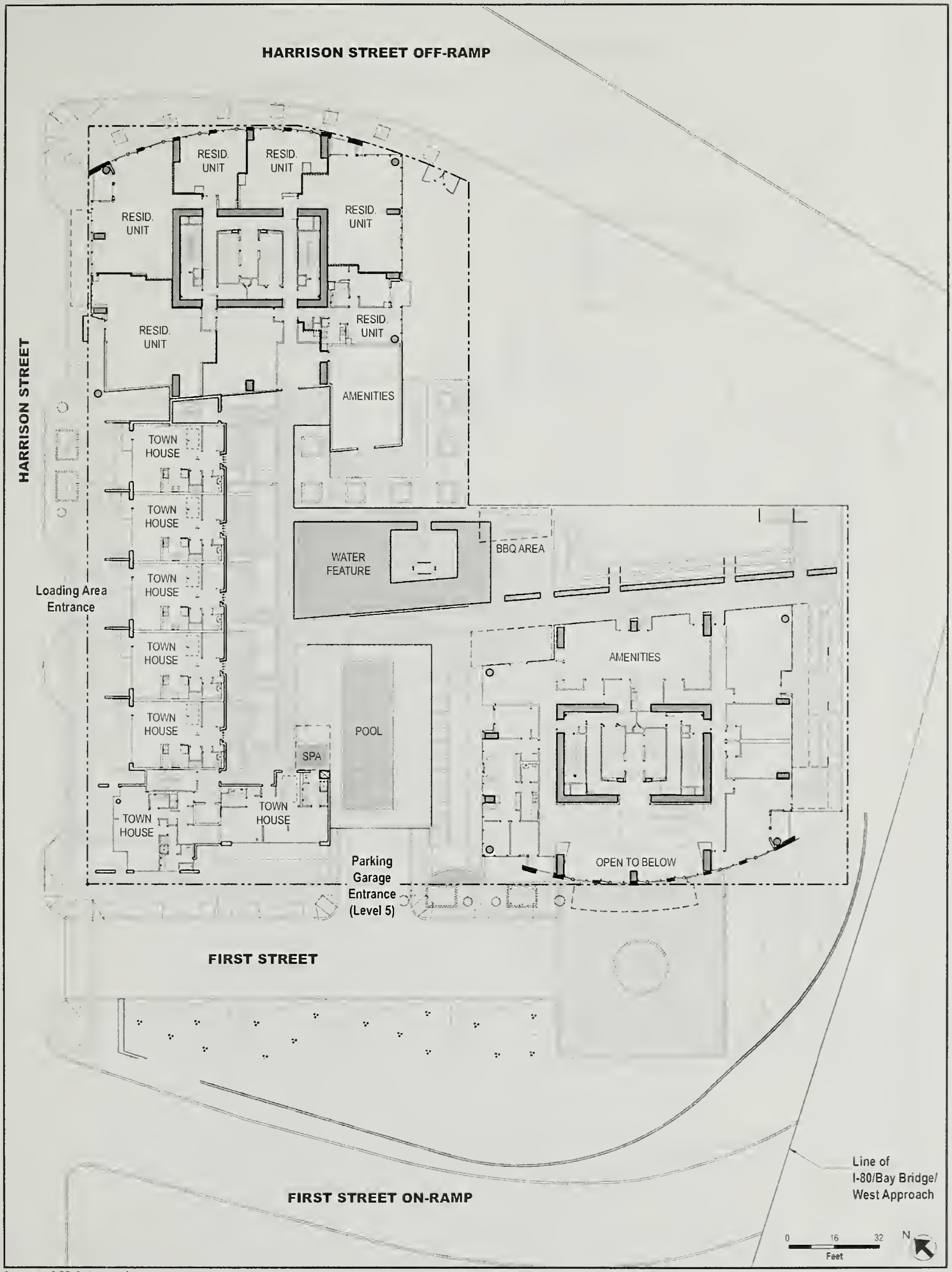
The project would provide approximately 49,000 square feet of common and private open space for the use of project residents. Common open space would include a landscaped terrace/podium at Level 5 of the north tower and at Level 2 of the south tower, above the parking levels and ground level, including a swimming pool and spa. A primarily glass wall of a minimum of seven feet in height would line the southern and southeastern portions of the terrace perimeter, in order to provide a physical and acoustic sound barrier between the terrace and the adjacent Bay Bridge West Approach. The project's fitness center, swimming pool, and other residential amenities would be located on the same level as the terrace. Private open space would include balconies and patios that would be accessed from individual residences.

Dependent upon Department of Public Work's consent, and in coordination with Caltrans' use of the First Street right-of-way for its work on the Bay Bridge West Approach retrofit project, the project would also develop about 19,000 square feet of adjacent street right-of-way as publicly accessible open space, including a widened sidewalk and landscaped areas along Harrison Street and a widened sidewalk and landscaping in the First Street public right-of-way (see Figure 3, page 7). The proposed *Rincon Hill Plan* amendment would require the project to provide 54,000 square feet of open space (based on 720 units at 75 sf per unit), in a combination of private, common or public open space. The project would provide 49,000 on-site in private decks and the podium open space, leaving a requirement for 5,000 square feet off-site. The 19,000 square feet of publicly accessible open space on the existing First Street public right-of-way would be 14,000 square feet more than the 5,000 square feet of publicly accessible open space that would be required by the proposed



Source: SCB & Assoc., Inc.

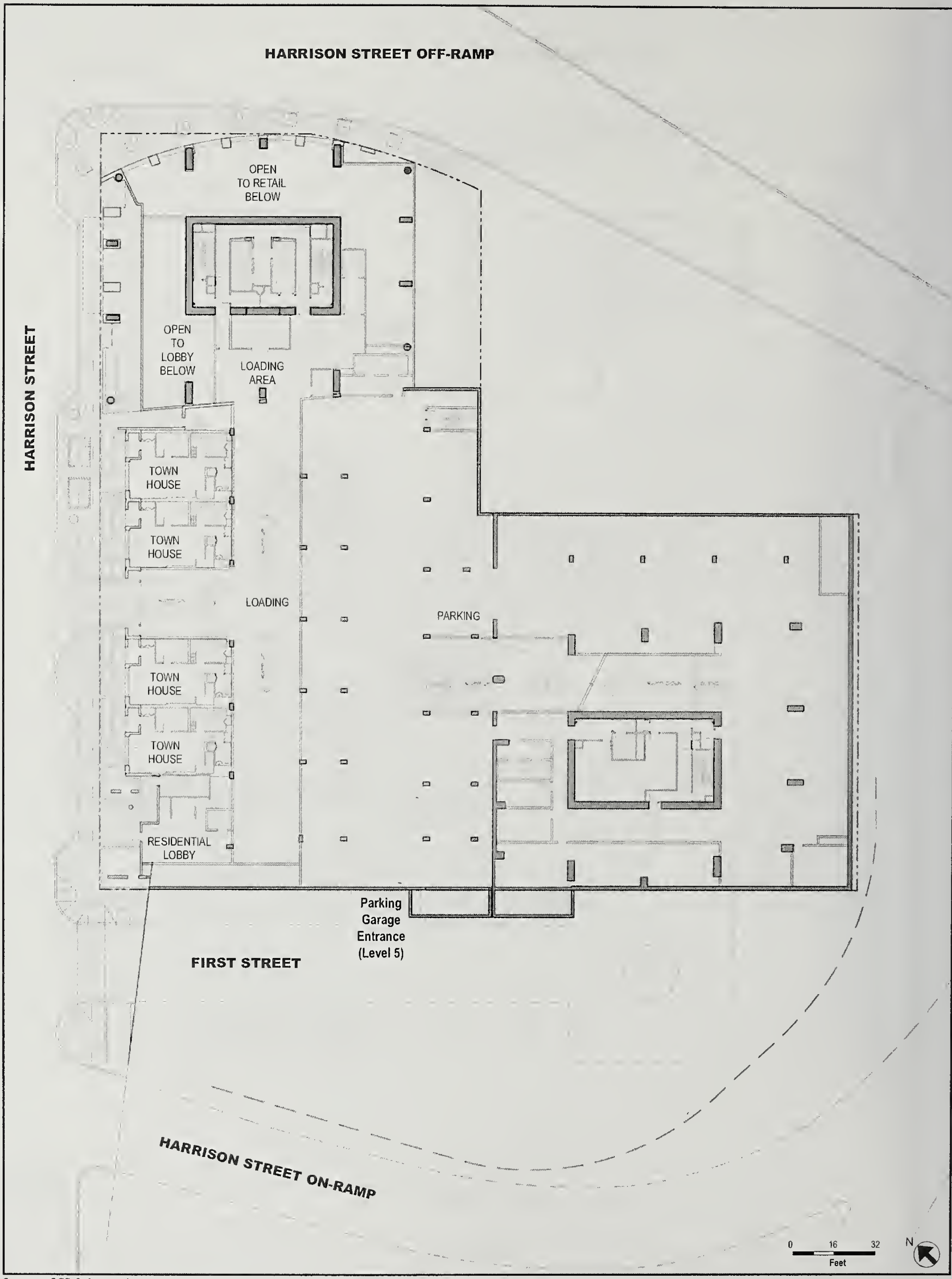
Figure 2 - Project Site Plan



Source: SCB & Assoc., Inc.

Project Site Boundary

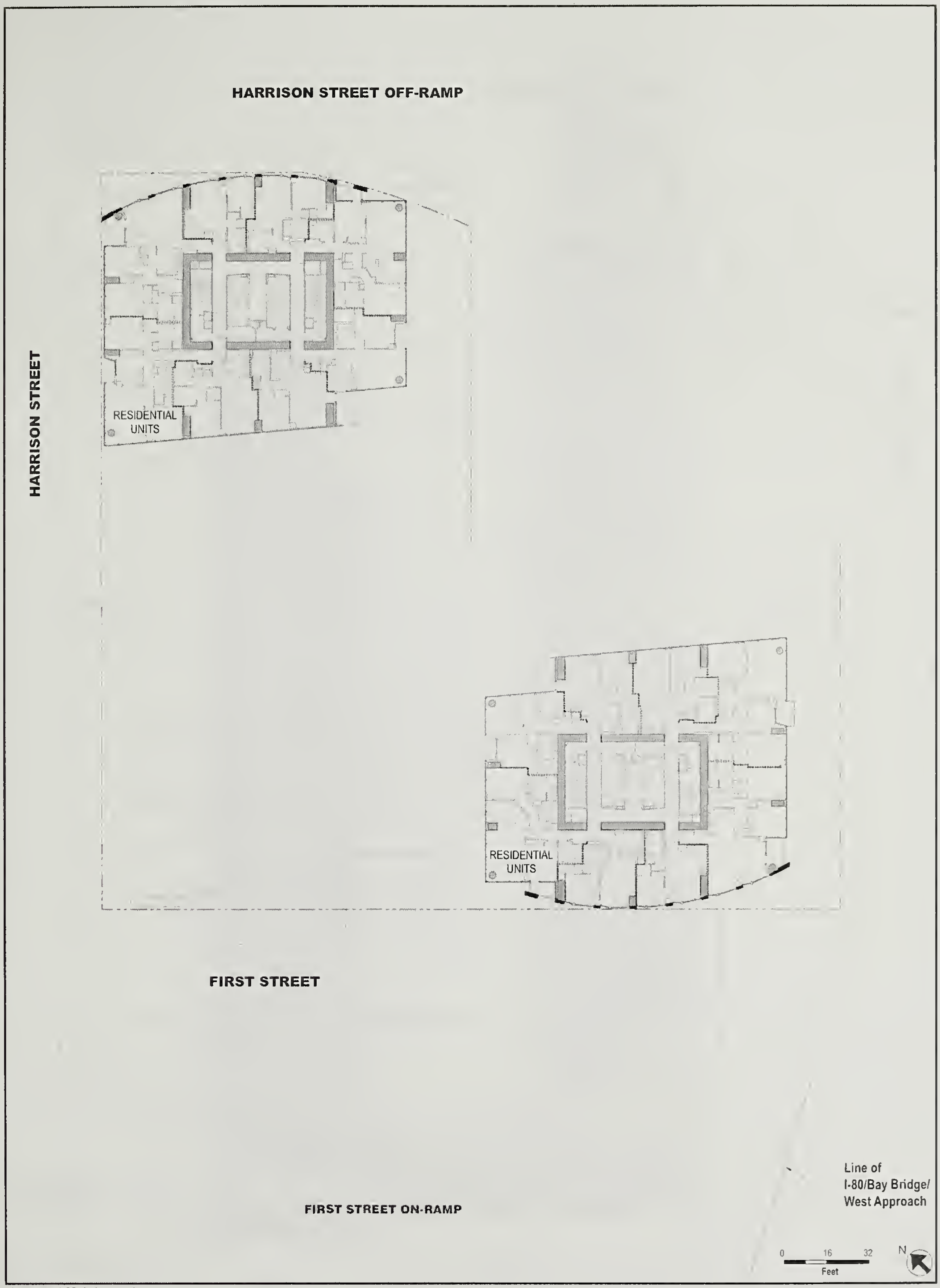
Figure 3 - Podium Level Plan (Level 7)



Source: SCB & Assoc., Inc.

Project Site Boundary

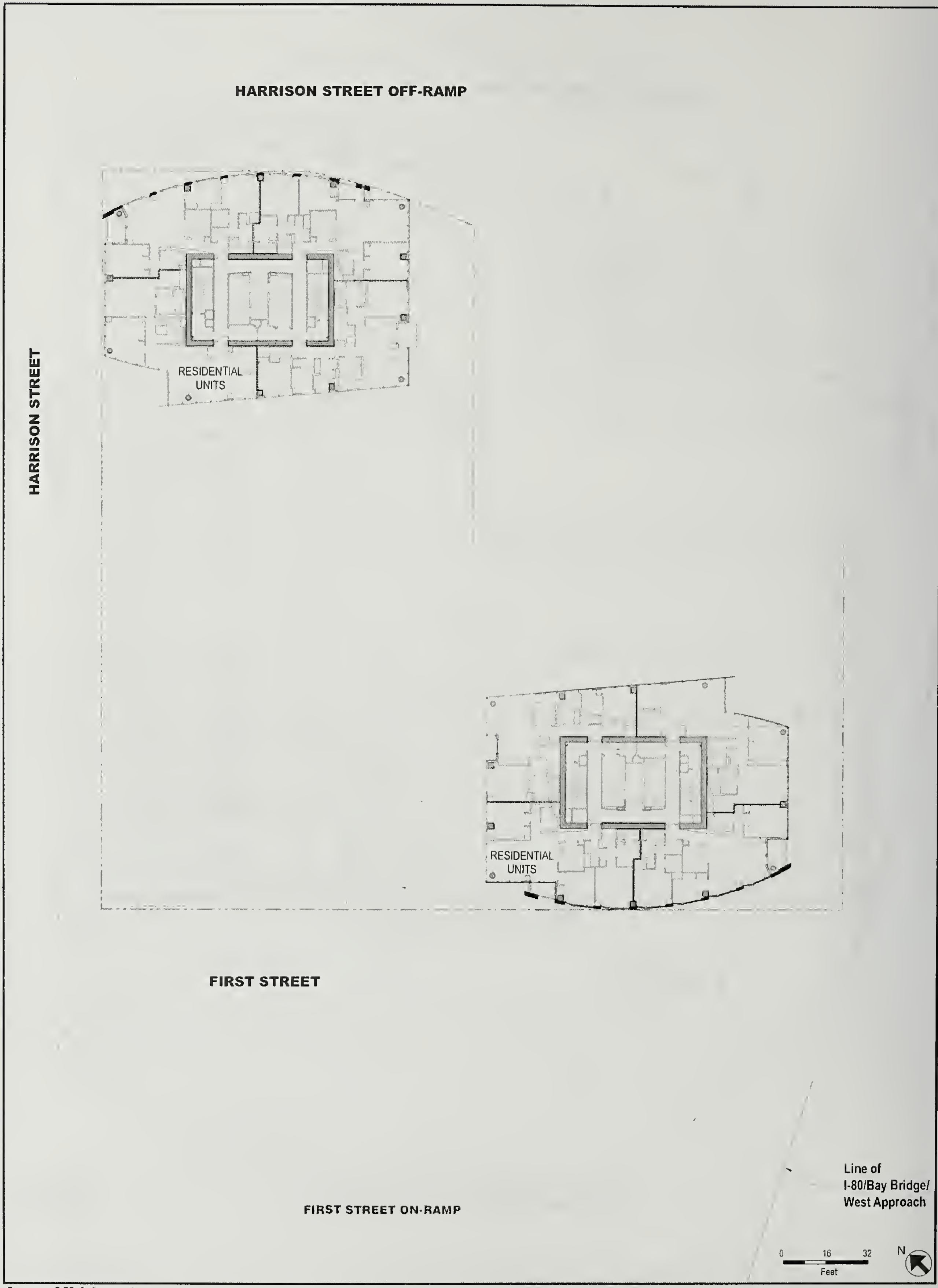
Figure 4 - Loading Level Plan (Level 2)



Source: SCB & Assoc., Inc.

Project Site Boundary

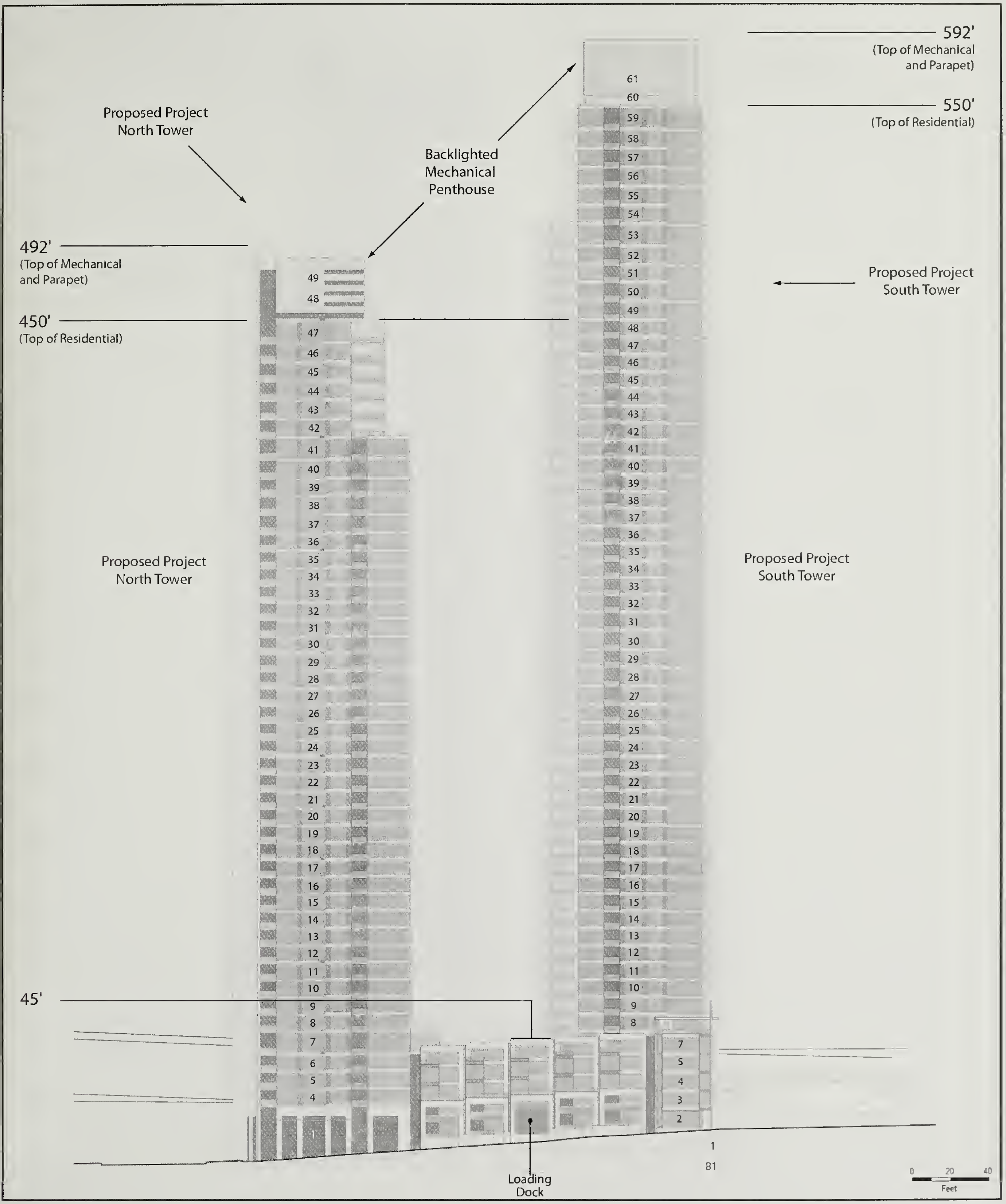
Figure 5A - Typical Lower Tower Plan (Levels 8 to 41of North Tower and Levels 8 to 53 of South Tower)



Source: SCB & Assoc., Inc.

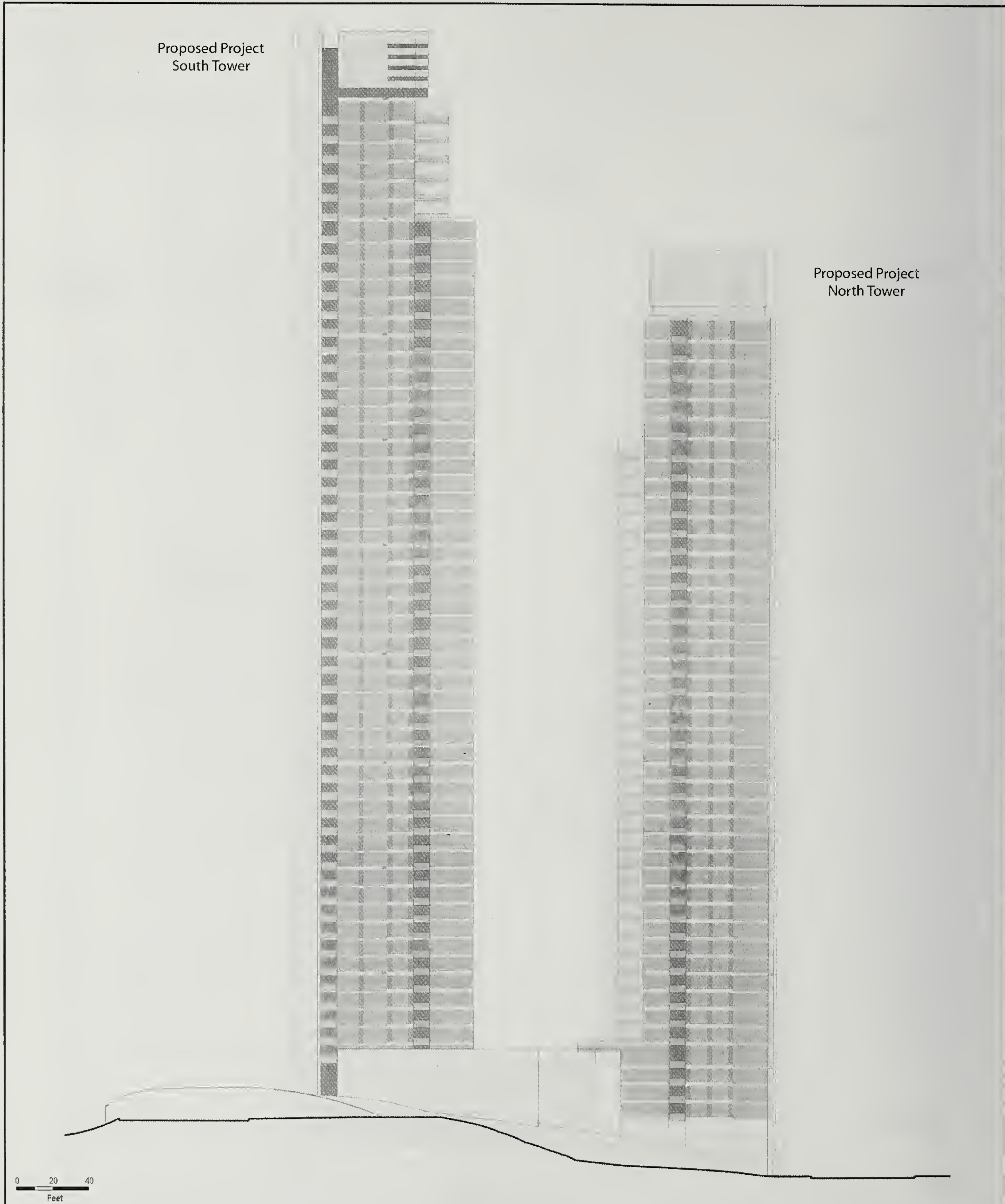
Project Site Boundary

Figure 5B - Typical Upper Tower Plan (Levels 42 to 47 of North Tower and Levels 54 to 59 of South Tower)



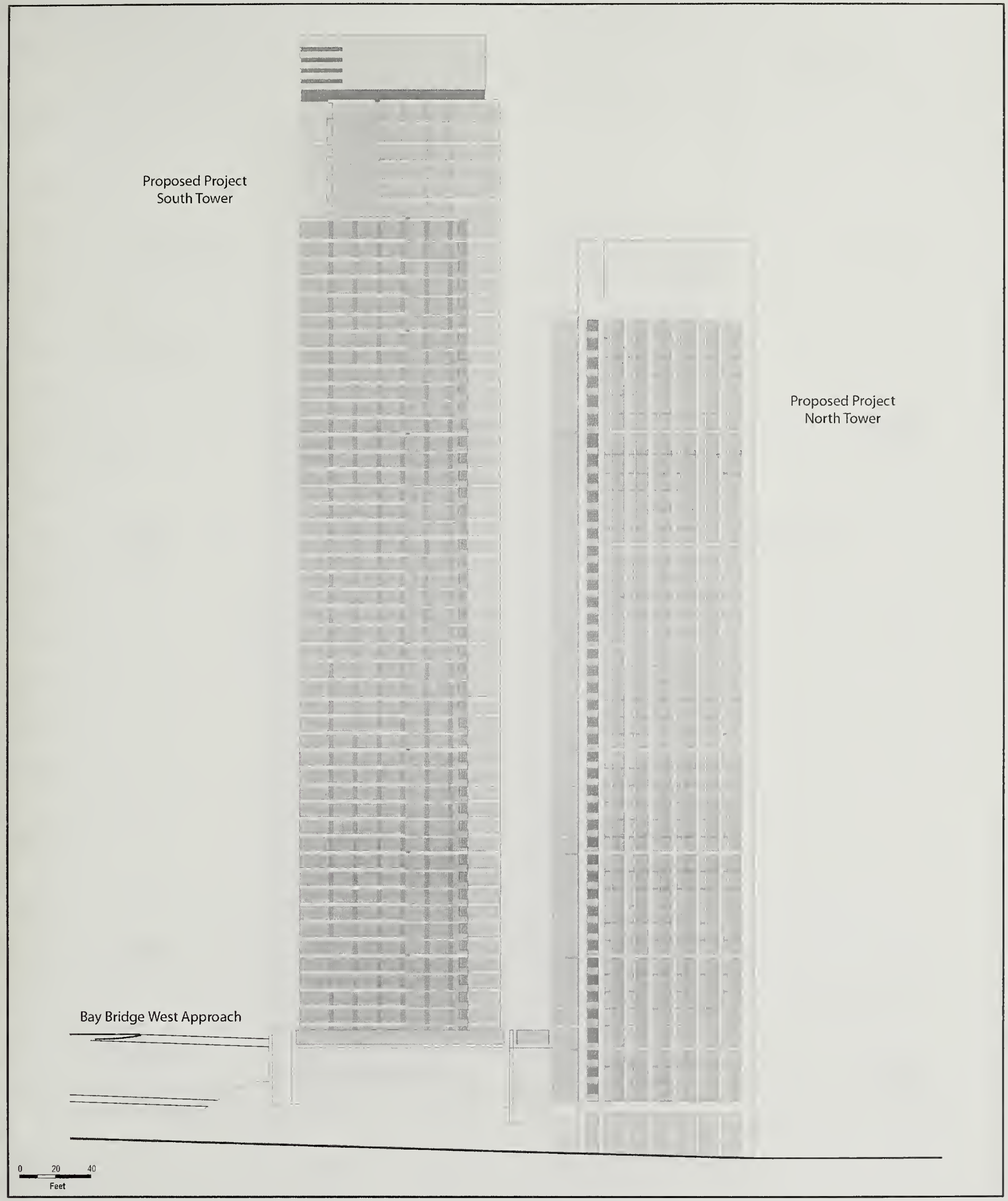
Source: SCB & Assoc., Inc.

Figure 6 - North Elevation (Harrison Street)



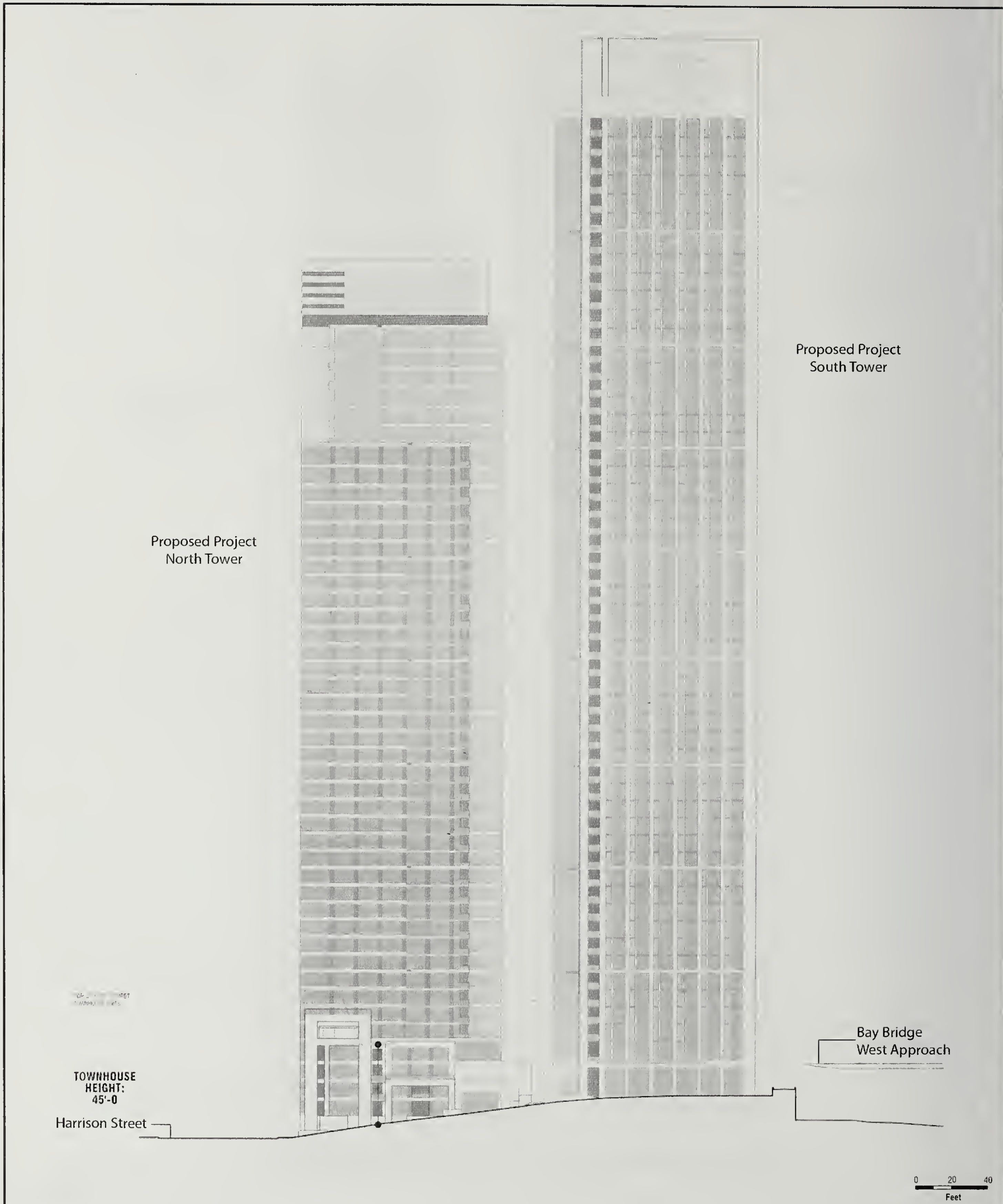
Source: SCB & Assoc., Inc.

Figure 7 - South Elevation (from Bay Bridge West Approach)



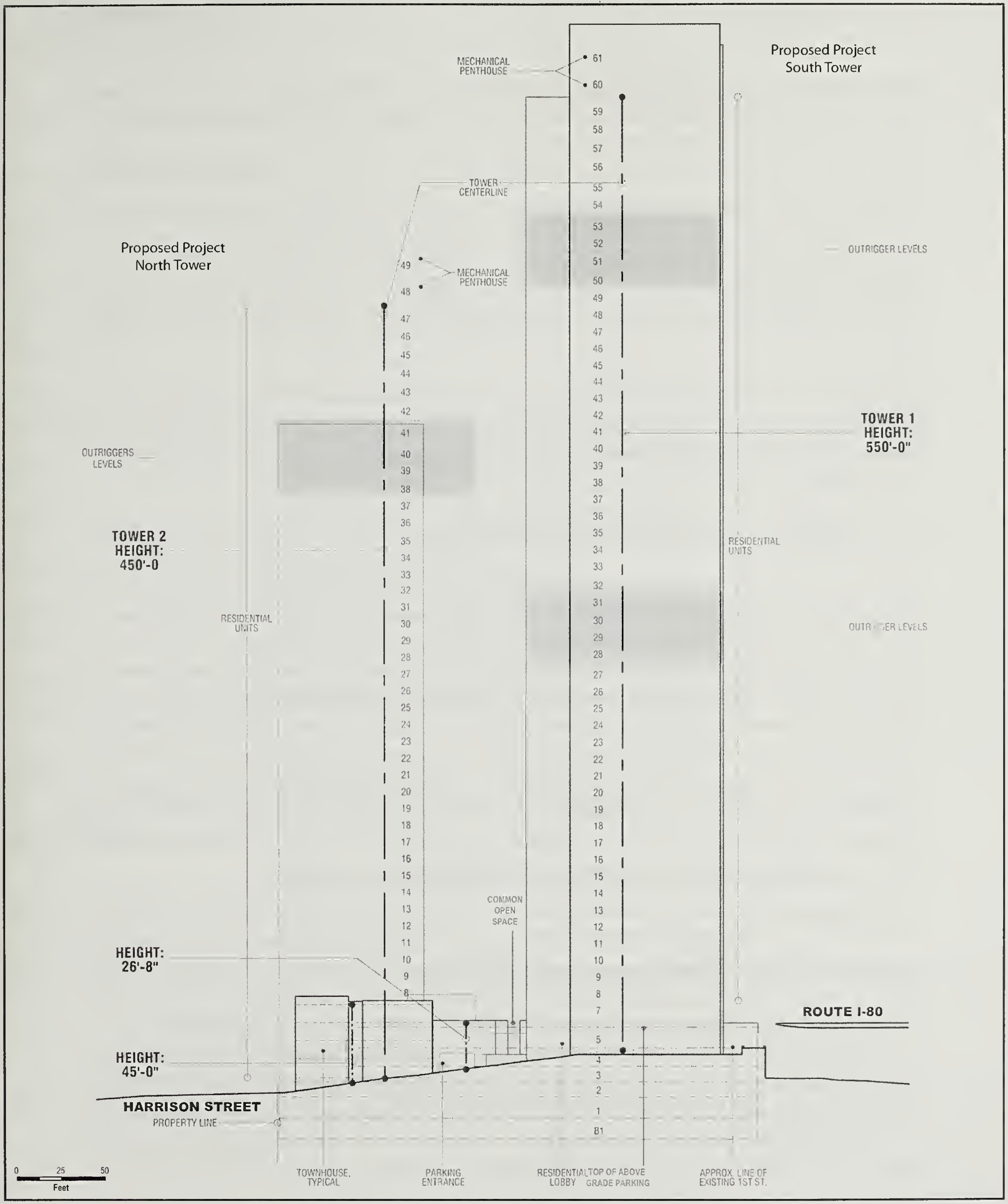
Source: SCB & Assoc., Inc.

Figure 8 - East Elevation (Harrison Street Off-Ramp)



Source: SCB & Assoc., Inc.

Figure 9 - West Elevation (First Street)



Source: SCB & Assoc., Inc.

Figure 10 - Building Section

amendments to the *Rincon Hill Plan.* A portion of this right-of-way, adjacent to the project site to the west, would be improved as a landscaped entry court and pick-up/drop-off area. The remaining right-of-way would be improved to be a publicly accessible open space. All or most of the 35 existing on-street parking spaces located in the First Street right-of-way would be eliminated. The building would be set back from the northern and western property lines approximately four feet to the townhouse entry steps at the ground level and nine feet to the face of the townhouses; the setback would increase the width of the Harrison Street sidewalk (currently eight feet wide) to approximately 12 feet adjacent to the townhouses, enabling the installation of landscaping. The towers would not be set back from the street, but would have arcades along their bases. Combined private and publicly accessible open space would total approximately 68,000 square feet.

Based on the results of wind tunnel testing, the project has incorporated several wind-reducing features to ensure no new exceedances of the City wind hazard criterion in public areas (see Section III-D, Wind). These features include a wind gutter that cuts into the north tower, large street trees, tower base arcade, entrance canopies, and vertical drag fins between the townhouses.

D. PROJECT APPROVALS AND SCHEDULE

Before discretionary project approvals may be granted for the project, the Planning Commission must certify the Environmental Impact Report (EIR) as accurate, objective, and adequate. This Draft EIR will first undergo a public comment period as noted on the cover, during which time the Planning Commission will hold a public hearing on the Draft EIR. Following the public comment period, the Planning Department will prepare and publish a Draft Comments and Responses document, containing all substantive comments received and the Department's response to those comments. It may also specify changes to the Draft EIR. The Draft EIR, together with the Comments and Responses document (including revisions to the Draft EIR), will be considered by the Planning Commission in a public meeting and presented to the Planning Commission for certification. Once certified, the two documents are together considered the Final EIR. The Commission and other decision makers will consider information in the Final EIR in its deliberations on the project. As noted, no approvals or permits may be issued prior to EIR certification.

PROJECT APPROVALS

Under Proposed Rincon Hill Downtown Residential Zoning

The project has been designed to be consistent with and implement the proposed *Rincon Hill Plan,* amendments to the *General Plan,* associated zoning ordinance(s), including the proposed Rincon Hill Downtown Residential (DTR) zoning, as described in the November 2003 *Rincon Hill Plan Draft for Public Discussion* and the *Supplement to the Rincon Hill Draft Plan* published in September, 2004. For the purposes of this EIR, the proposed Rincon Hill Plan amendment consists of the Preferred Option evaluated in the Rincon Hill Plan Draft EIR.[4] The project would require either Conditional Use Authorization or a design

[4] San Francisco Planning Department. *Rincon Hill Plan Draft Environmental Impact Report.* September 25, 2004.

review approval by the Planning Commission, depending on the *Planning Code* amendments, if approved, to implement the revised draft *Rincon Hill Plan* that is currently being considered for adoption.

Under Existing Zoning

Should the proposed *Rincon Hill Plan* and DTR district not be adopted and/or proceed as scheduled, the project sponsor would seek a *General Plan* amendment. The sponsor would also apply for a rezoning of the site, including a Height/Bulk district reclassification, consistent with what the draft *Rincon Hill Plan* (including the proposed supplement) proposes. Such rezoning, which would require approval by the Planning Commission and the Board of Supervisors, and signature by the Mayor, would change the provisions of the current *Rincon Hill Special Use District* (*Planning Code* 249.1) as they apply to the site concerning open space, residential density, non-individually accessible parking access, and height and bulk controls. The rezoning would increase the height and bulk limits for the site from 200 feet to 450 feet on the northern portion of the site and from 84 feet to 550 feet on the southern portion. These changes would include a zoning map change and a *Planning Code* text change. Rezoning requires approval by the Planning Commission and the Board of Supervisors, and signature by the Mayor. Under existing zoning, the project sponsor would also apply for Conditional Use Authorization for height above 40 feet in the R zoning district and a parking variance, if they are still required after the *Planning Code* amendments are approved.

Planning Code Section 249.1 (3)(B): Reduction of Ground-Level Wind Currents

The project sponsor would request an exception to the ground level wind speed comfort criteria, which must be approved by the Zoning Administrator, pursuant to Planning Code Section 249.1(b)(3) and the proposed Rincon Hill DTR Zoning, as the project would cause wind speeds to exceed the pedestrian comfort criterion at certain locations.

Planning Code Section 315: Housing Requirements for Residential and Live/Work Development Projects

The project is subject to affordable housing requirements. The Board of Supervisors passed Inclusionary Affordable Housing legislation (Ordinance No. 3702, codified as *Planning Code* Section 315) on March 2, 2002. Section 315 sets forth the requirements and procedures for the Residential Inclusionary Affordable Housing Program, for residential development proposals of ten, or more, units, and allows for compliance on-site or off-site, or by payment of an in lieu fee. Under Section 315, the requirement varies between 10 and 17 percent depending on the approvals required and method of compliance. The project sponsor is currently evaluating options for compliance, and has not yet made a final decision. The Planning Department will confirm the requirements for the project as part of its application review process, and the project sponsor's proposals will be considered by the Planning Commission, as part of its deliberations on whether to approve or disapprove the project.

Public Works Code Section 786: Street Encroachment Permit

The project requires either a revocable encroachment permit or a street improvement permit from the Department of Public Works (DPW) for the proposed use of the First Street right-of-way. The project also requires separate approval from DPW and the Department of Parking and Traffic (DPT) for the provision of new curb cuts for entry/exit to and from parking and the proposed entrance/exit turnaround and drop-off (on First Street); entry to loading dock accessed from Harrison Street; and replacement of curbs, gutters, and sidewalks (on Harrison Street).

PROJECT SCHEDULE

The project sponsor expects environmental review, project review, and detailed design to be completed in early 2005. Planning Commission action and other review would be requested at that time for the entire project. If the proposed *Rincon Hill Plan* and DTR zoning were not adopted and approved and/or not proceed as scheduled, the project would require approval by the Board of Supervisors and signature by the Mayor of a request for zoning reclassification subsequent to the Planning Commission's review, and a *General Plan* amendment. Project construction would be expected to occur in two sequential phases and take a total of approximately 48 months. Phase one, which would include demolition of the existing structures and construction of the parking levels, southwest tower and townhouses (totaling approximately 415 units), would take approximately 28 months, with the building planned to open in 2007. Phase two, construction of the north tower, including 305 units and the retail space, would take an additional 20 months and would likely commence after completion of the first phase. The project architects are Solomon Cordwell Buenz & Associates Architects, of Chicago and Korth Sunseri Hagey Architects of San Francisco. The project landscape architect is SWA Group of Sausalito.

CHAPTER III

ENVIRONMENTAL SETTING AND IMPACTS

An application for environmental evaluation for the project was filed January 14, 2003. On the basis of an Initial Study published June 5, 2004, the San Francisco Planning Department determined that an Environmental Impact Report (EIR) was required. The Initial Study determined that the following effects of the project would either be insignificant or would be reduced to a less-than-significant level by identified mitigation measures, and thus required no further analysis: project-specific land use, project-specific population, noise, construction air quality, utilities/public services, biology, geology, water, energy, hazards, and archaeological resources (see Appendix A for the Initial Study). Therefore, the EIR does not discuss these issues except as noted below.

Issues found to be potentially significant in the Initial Study are evaluated in this chapter. They include: cumulative land use, visual quality/urban design, cumulative population, transportation, operational air quality, wind, shadow, and historic architectural resources. Growth inducement is also addressed.

This EIR provides discussion of topics determined in the Initial Study to be less-than-significant for informational purposes. For example, this EIR includes a general land use section to orient the reader, and for the reader's information.

A. LAND USE AND ZONING

The Initial Study determined that the project itself would not have a significant effect on land use. Therefore, much of the information in this section is for context and for the readers' information. The Initial Study determined that project cumulative land use effects would be analyzed in this EIR to determine whether or not they were significant. This section first describes the existing land uses in the vicinity of the project, followed by a description of the proposed land use changes to the project site. This is followed by a discussion of land use objectives of the *San Francisco General Plan* (*General Plan*), then the *San Francisco Planning Code* (*Planning Code*), including area zoning under the existing *Rincon Hill Area Plan*, the proposed *Rincon Hill Plan* zoning including the proposed *Downtown Residential (DTR) District.* Third, project consistency with the *General Plan* and *Planning Code* is discussed with emphasis on effects of the project in relation to land use and zoning. Finally, the project's cumulative land use impact is evaluated. As discussed in Project Approvals (p. 16), the project would require rezoning under existing controls and would conform to proposed controls for Rincon Hill.

LAND USE

Existing Land Uses in the Vicinity

The project site is located along the south side of Harrison Street, immediately to the north of Interstate 80 (specifically, the Bay Bridge West Approach), to the east of First Street and the First Street on-ramp to the Bay Bridge, and immediately to the west of the Harrison Street off-ramp from the Bay Bridge (formerly the Fremont Street off-ramp). The project site is situated in the Rincon Hill neighborhood, about two blocks to the south of the proposed Transbay Redevelopment Project Area, one block north of the *Rincon Point-South Beach Redevelopment Plan* area, and four blocks from San Francisco Bay. The South of Market neighborhood is to the south and west of the project site, beyond the Rincon Hill area. The downtown office district begins one block north across Folsom Street and extends north of Market Street to about Washington Street. The Transbay Terminal is to the northwest between Fremont Street, Mission Street, First Street and Howard Street. To the north, on both sides of Folsom Street, are vacant pieces of property used for surface parking, some of which are part of the Transbay Redevelopment Project Area and others are approved for residential development.

Land uses in the vicinity of the project site are mixed with high- and moderate-density residential uses, as well as retail, office, small scale light industrial, utilities, parking, and institutional uses, and major transportation facilities (see Figure 11 on page 22 for a map of existing land uses in the vicinity). Much of Rincon Hill is in transition from an industrial district with surface parking to a predominately high-rise residential district. A number of high-density residential buildings containing a total of about 1,400 units have been built in the Rincon Hill Special Use District (SUD), and projects totaling about 3,700 additional units are under construction, approved, or under formal review.

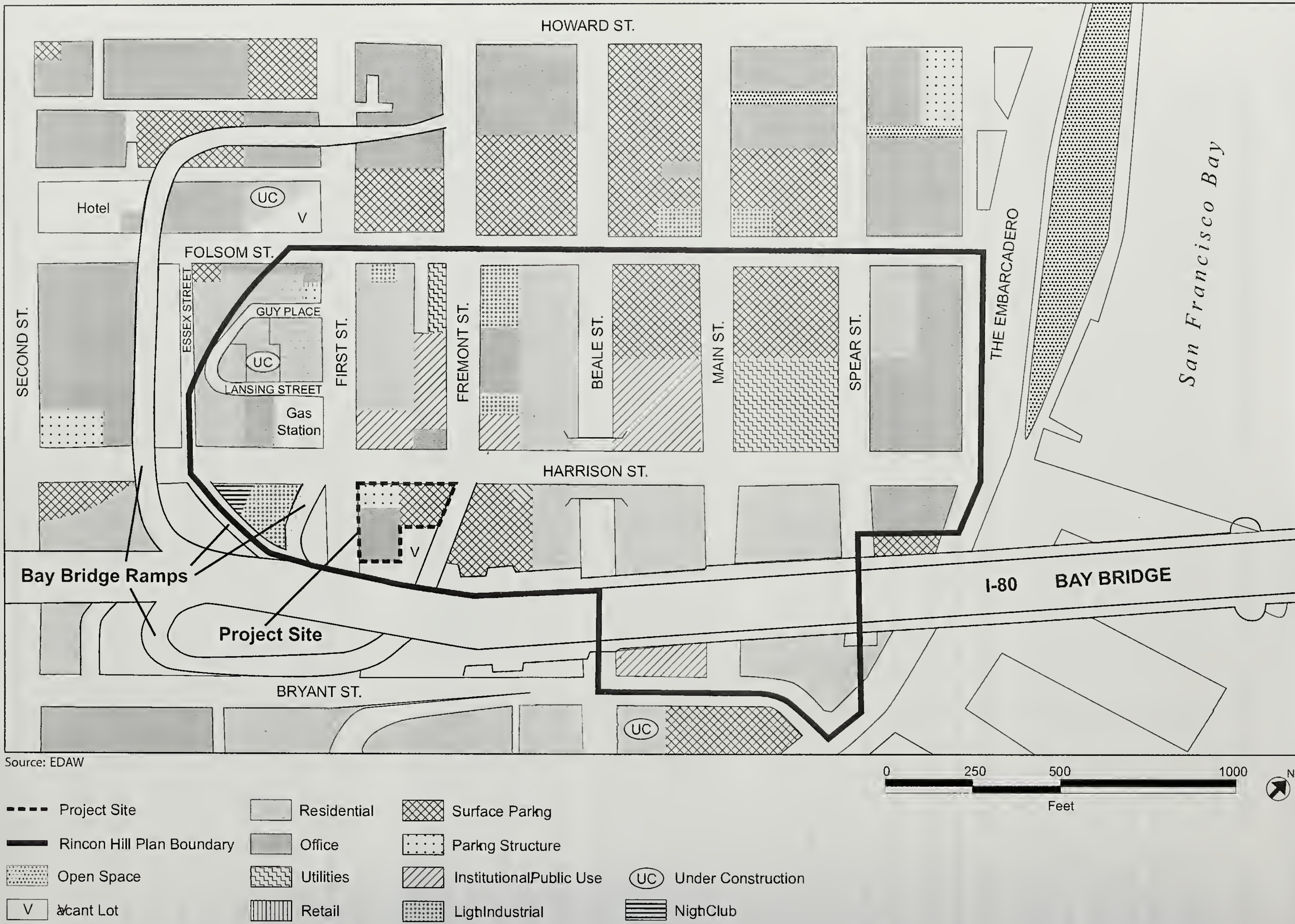
Within three blocks of the site there are a number of existing or under-construction residential buildings, including: the 19-story, 67-unit Hills Plaza building (at 75 Folsom), four blocks to the northeast of the project site; the eight- and nine-story twin-tower, 220-unit Portside Condominiums building complex (at 403 Main Street and 38 Bryant Street), three blocks to the east of the site; the 10- and 11-story twin-tower, 288-unit Bay Crest building (at 201 Harrison Street), two blocks east of the site; the 26-story, 245-unit Bridgeview Tower (at 400 Beale Street), one block east of the site; the 21- and 26-story twin-tower, 342-unit Metropolitan building (at 333 First Street) one block to the north; the 20-story twin-towers, 226-unit Avalon Towers (at 388 Beale Street), two blocks to the northeast; the 80-unit 40-50 Lansing Street midrise, about a block to the northwest; and the 46-unit Harbor Lofts at 400 Spear Street, about four blocks east of the project site (see Figure 12 on page 23 for a map of existing, approved, and proposed residential land uses in the vicinity).

Projects approved (but not yet built) in the project vicinity include the 35- and 40-story twin-tower, 820-unit 300 Spear residential project on the site of surface parking at 300 Spear Street, three blocks to the northeast of the site, and the 35- and 40-story twin-tower, 725-unit 201 Fremont residential development at 201 Folsom Street, two blocks to the northeast of the site. The proposed project (720 units) and other proposed development at 45 Lansing Street (275 units), 333 Fremont Street (88 units), 350 Fremont (333 units), 375 Fremont Street (250 units), and 385/399 Fremont Street (183 units) are proposed residential developments in the Rincon Hill SUD overlay area under formal review at the Planning Department. A 70-unit (11 unit increase) revision of a previously approved 51-unit design was approved on January 27, 2005 for the 325 Fremont Street site.

Land uses in the immediate neighborhood (within a block) of the project site are a mix of residential, retail, institutional, transportation infrastructure, parking, and light industrial uses. Directly across Harrison Street from the project site to the north is the Sailor's Union of the Pacific building, which contains several maritime union offices, a dispatch hall, and event space for union functions.

Adjacent to the east of the Sailor's Union building is a two-story, early Twentieth Century light industrial building. Similar buildings, with office and light industrial uses, line most of the eastern side of Fremont Street between Harrison and Folsom Streets. The western side Fremont Street between Harrison and Folsom Streets is occupied by small parking lots and two buildings (one four stories and one two stories) used for maritime union offices. At the southwest corner of Fremont and Folsom Streets is an approximately six-story electrical substation.

To the north of the site along First Street is a variety of uses. Adjacent to the west of a gas station located on the northwest corner of First and Harrison Streets is office space in a former industrial building. The building next door, and a large proportion of the buildings on First Street between Harrison and Folsom Streets, are residential except for a brick office building (501 Folsom) at the southwest corner. Immediately to the west of the First Street on-ramp is a three-story light industrial building, and a two-story nightclub. As indicated, the site is adjacent on three sides to major transportation facilities under the jurisdiction of the State Department of Transportation (Caltrans). They include Interstate 80 (the Bay Bridge West Approach) abutting the site to the south, the Harrison Street off-ramp (formerly the Fremont Street off-ramp) from the Bay Bridge adjacent on the east, and the First Street on-ramp to the Bay Bridge adjacent to the site on the west.



Source: EDAW

Figure 11 - Existing Land Use in the Project Vicinity

Source: San Francisco Planning Department

- Project Site
- Proposed Transbay Redevelopment Project Area Boundary
- Rincon Hill Special Use District Boundary

Existing Residential

1. Metropolitan (333 First Street)
2. Embarcadero Lofts (300 Beale St.)
3. Avalon Towers (388 Beale Street)
4. Residential Portion of Hills Plaza
5. Bridgeview Towers (400 Beale St.)
6. Bay Crest (201 Harrison St.)
7. Portside I (38 Bryant St.)
8. Portside II (403 Main St.)
9. Harbor Lofts (400 Spear St.)

Approved Residential

- A 325 Fremont St.
- B 201 Folsom St.
- C 300 Spear St.

Under Construction Residential

- A 40 - 50 Lansing St.

Proposed Residential (application on file)

1. 45 Lansing
2. 333 Fremont St.
3. 350 Fremont St.
4. 375 Fremont St.
5. 399 Fremont St.

Figure 12 - Residential Developments in the Project Vicinity

Public open space in the greater vicinity of the project site includes Rincon Park between Howard and Folsom Streets on the Bay side of The Embarcadero, South Park on the south side of Interstate 80, between Second and Third Streets and between Bryant and Brannan Streets, and South Beach Park between Townsend and Second Streets on the Bay side of The Embarcadero. The Draft *Rincon Hill Plan* proposes that the City purchase from Caltrans the vacant parcel located at the southeast corner of Fremont and Harrison Streets, east across the Harrison Street off-ramp from the project site to create an approximately 1.5-acre park. However, Caltrans[1] has indicated that it does not consider this lot to be "excess land and [this lot] may never be sold. There are no negotiations ongoing [at present] between [Caltrans] and the City of San Francisco over this property." Thus, this open space is at an early stage of planning.

The 56,090-square-foot project site is currently occupied by a surface parking lot on its eastern portion and the three-story Bank of America building complex (former Union Oil Company office building), which includes a clock tower and a two-story garage (plus rooftop parking) on its western portion (fronting Harrison Street). The existing office building includes about 75,816 gross square feet (gsf) of space and the garage includes about 8,100 square feet, for a total of 83,916 gsf. The building has been vacant since late 2002. The 183-foot-tall triangular clock tower contains no occupiable space and is used solely for the clock display and advertising. The surface parking and three levels of garage parking provide space for 54 and 86 spaces respectively for a total of 140 vehicles.

IMPACTS

Significance Criteria

A project would have a significant impact if it would disrupt or divide the physical arrangement of an established community or have a substantial impact on the existing character of the vicinity.

Proposed Changes in Land Use on the Project Site

The proposed project would include a total of 720 residential units in two towers and townhouses, as well as tenant amenities (e.g. pool, spa), 3,220 gsf of ground-floor convenience retail space, and 720 parking spaces on six valet-attended basement and above-grade levels, some of which include mechanical car lifts.

Residential use is becoming the predominant land use in the immediate vicinity, and multiple proposals for residential developments indicate that the trend is towards intensification of that use in the area. Thus, the project would not have a substantial land use impact on the character of the vicinity. This is consistent with City policy that encourages residential development near downtown. The proposed residential use would therefore not be a new land use type in the immediate vicinity. The City's *Rincon Hill Plan* and SUD, proposed *Rincon Hill Downtown Residential (DTR)*, and *Rincon Hill Plan Amendments*, discussed further below, call for the development of high-density residential uses in the project area including the project site.

The proposed development, which would total approximately 1,217,315 gsf, would introduce residential use (with up to 720 residential units) and retail uses to the project site, increase parking, and result in an increase

[1] Timothy C. Sable. District Branch Chief, IGR/CEQA. Letter to Carol Roos, San Francisco Planning Department. July 7, 2004.

in intensity relative to the existing land use, given that the existing office building, which consists of three stories (plus penthouse) of office space that have been vacant since late 2002, and the existing parking garage together comprise 83,916 gsf of land use. The proposed uses represent a net increase of 1,133,399 gsf of developed space for the site. The project would be compatible with existing and planned uses in the vicinity, and with both the existing *Rincon Hill SUD* and proposed *Rincon Hill DTR District*, currently under environmental evaluation by the Planning Department as noted above. The project would be developed within the existing block configuration and, therefore, would not disrupt or divide the neighborhood. As the Initial Study for the project (Appendix A) concluded, project-specific effects related to land use would be less than significant.

ZONING

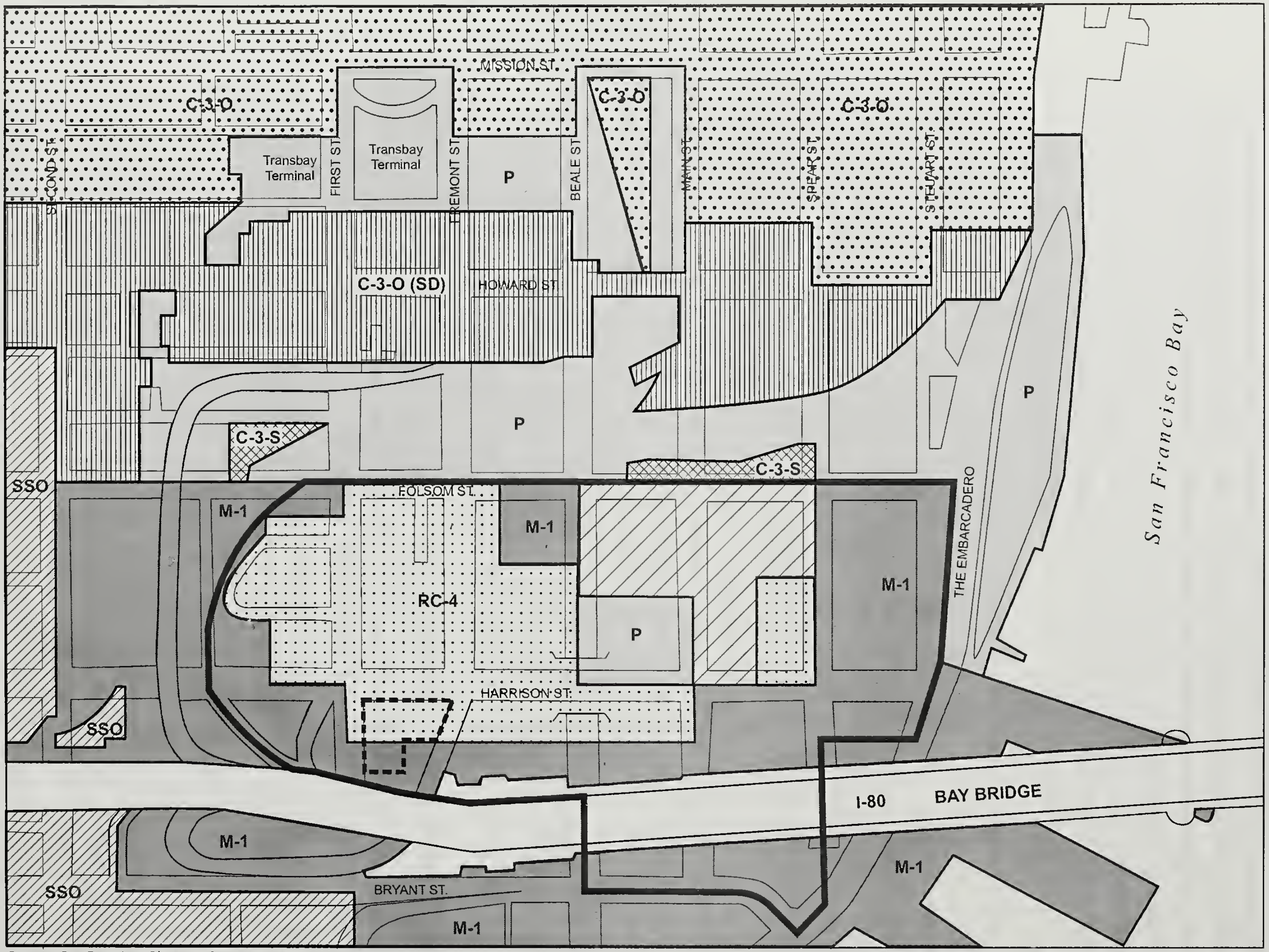
Existing Project Site Zoning

The San Francisco *Planning Code* implements the *General Plan*, establishing allowable uses, densities, and configurations of buildings, and sets forth procedures and criteria for review of proposed projects. The northern portion of the project site is within an RC-4 (Residential-Commercial Combined, High Density) Use District and the Residential Subdistrict of the Rincon Hill Special Use District (SUD), while the southern portion is in a M-1 (Light Industrial) Use District and the Commercial/Industrial Subdistrict of the SUD. The Rincon Hill SUD and the RC-4 and M-1 zoning districts are described below. The project site is also subject to the Rincon Hill SUD, through which additional land use controls to those in the conventional zoning district, described above, are applied. *Planning Code* Section 249.1 divides the Rincon Hill SUD into three subareas or subdistricts: a Residential Subarea, located at the core of the SUD; and a Commercial/Industrial Subarea, located mostly along the perimeter of the SUD. An additional subdistrict, Rincon Hill Residential/Commercial Special Use Subdistrict, was approved by the Board of Supervisors in February 2004. See Figure 13 on page 26 for a map of use districts in the project vicinity.

RC-4 (Residential-Commercial Combined: High Density) District

RC districts are intended to recognize, protect, conserve, and enhance areas characterized by structures combining residential uses with neighborhood-serving commercial uses. The predominant residential uses are preserved, while provision is made for supporting uses, usually in or below the ground story, which meet the frequent needs of nearby residents without generating excessive vehicular traffic (*Planning Code* Section 206.3). RC-4 Districts provide for a mixture of high-density dwellings similar to those in RM-4 Districts with supporting commercial uses. The commercial uses are those permitted in C-2 Districts, located in or below the ground story in most instances, and excluding automobile-oriented establishments. Open spaces are required for dwellings in the same manner as RM-4 Districts, except that rear yards need not be at ground level and front setback areas are not required. The high-density and mixed-use nature of these districts is recognized by certain reductions in off-street parking requirements (Section 206.3).

RC-4 zoning permits dwelling units, as a principal permitted use, at a maximum ratio of one dwelling unit for each 200 square feet (sq. ft.) of lot area (Section 209.1). Planned unit developments, hotels, institutional uses



Source: San Francisco Planning Department

- Project Site
- Rincon Hill Special Use District Boundary
- Light Industrial District (M-1)
- Downtown Office District (C-3-O)
- Public Use District (P)
- Service/Secondary Office (SSO)
- Residential-Commercial Combined District, High Density (RC-4)
- Downtown Office Special Development District (C-3-O (SD))
- Downtown Support District (C-3-S)
- Rincon Hill Residential/Commercial Special Use District

Figure 13 - Existing Use Districts in the Project Vicinity

(academic, religious or medical institution), parking lots, and community garages are permitted with Conditional Use authorization. The floor area ratio (FAR) permitted for all non-residential uses is 4.8:1 (Section 124). Residential uses are exempt from floor area ration (FAR) requirements (Section 124). Generally, one off-street parking space for each four dwelling units is required. Commercial uses (depending on the specific type or use) require parking and loading spaces (Sections 151 and 152). Rear yards are required in the RC-4 district and need not be at ground level (Section 134(c)). Properties in an RC-4 district require 36 sq. ft. of private usable open space for each residential unit (Section 135). Common usable open space for each residential unit may be substituted for private open space at the rate of 133 percent of the amount of required private open space.

<u>M-1 (Light Industrial) District</u>

The M-1 districts provide land for industrial development. In general, the M-1 district is more suitable for smaller industries dependent upon truck transportation than M-2 (Heavy Industry) districts. Most industries, with the exception of those with large or noxious characteristics, are permitted. Permitted industries have certain requirements as to enclosure, screening and minimum distance from residential districts (Section 210.5). Manufacturing, wholesale, storage, retail, automobile service stations and repair, and service uses are permitted as principal uses. Auto-wreckers and certain other uses, including institutional and residential uses, are permitted with Conditional Use authorization (Sections 215-227).

<u>Rincon Hill SUD</u>

The purpose of Rincon Hill SUD (see Figure 15 on page 33 for a map of the existing Rincon Hill SUD subdistricts), an overlay district established in 1985, was "to convert an underutilized and outmoded industrial area to a unique residential neighborhood close to downtown which will contribute to the City's housing supply, create tapered residential buildings, provide an appropriate mixture of retail sales and personal services to support new residential development, provide a buffer of office and parking use between the Bay Bridge and freeway ramps and the housing sites, and allow the existing industrial, service and office uses to remain" (Section 249.1). Because the project site is in both the Residential and the Commercial/Industrial Subdistricts of the Rincon Hill SUD, it is subject to the provisions of *Planning Code* Sections 249.1(c) and (d), as well as controls specified in *Planning Code* Section 249.1(b) that apply to all of Rincon Hill. The provisions of Section 249.1 supercede the underlying RC-4 and M-1 zoning districts where there is an inconsistency.

Planning Code Section 249.1(b) Rincon Hill SUD Controls

The following controls are applicable in the Rincon Hill SUD:

Site Coverage. Site coverage for new buildings in the Rincon Hill SUD shall not exceed 80 percent except on sloping sites, provided that site coverage above 50 feet does not exceed 80 percent. This limitation is intended to promote a residential atmosphere in the Residential subdistrict and an environment compatible with the adjacent development in the Commercial/Industrial subdistrict (Section 249.1(b)(1)(A)). On a sloping site, the site-coverage restriction may be modified by conditional use authorization to account for changes in elevation, provided that site coverage above 50 feet does not exceed 80 percent (Section

249.1(b)(1)(B)). The portion of the site (a minimum of 20 percent of the lot) that is not covered shall not be used for parking, open storage, or service activities, including the loading and unloading of freight and refuse receptacles (Section 249.1(b)(1)(D)).

Sidewalk Treatment. If a conditional use permit is granted, the Commission may impose a requirement that the applicant install lighting, decorative paving, seating and landscaping in accordance with guidelines developed by the Planning Department, and shall further require that the owner of the property maintain those improvements other than lighting (Section 249.1(b)(2)(A)). Street trees are required to be installed at one tree for every 20 feet of street frontage with any remaining fraction of 10 feet or more of frontage requiring an additional tree (Section 143 (b)). Applicants must also obtain permits for sidewalk improvements and pay all required fees (Section 249(b)).

Reduction of Ground-Level Wind Currents (Section 249.1(b)(3)). New buildings and additions to existing building area are required to be shaped, or other wind-baffling measures adopted, so that the developments will not cause ground-level wind currents to exceed more than 10 percent of the time year-round, between 7:00 a.m. and 6:00 p.m., the comfort level of 11 m.p.h. equivalent wind speed in areas of substantial pedestrian use and 7 mph equivalent wind speed in public seating areas. When preexisting ambient winds speeds exceed the comfort level or when a proposed building or addition may cause ambient speeds to exceed the comfort level, the building must be designed to reduce the ambient winds speeds to meet the requirements. The Zoning Administrator may allow the building or addition to add to the amount of time the comfort level is exceeded by the least practical amount under two circumstances. If it can be shown that a building or addition cannot be shaped and other wind-baffling measures cannot be adopted to meet the foregoing requirements without creating an unattractive and ungainly building form and without unduly restricting the development potential of the building site in question, and if it is concluded that, because of the limited amount by which the comfort level is exceeded, the limited location in which the comfort level is exceeded, or the limited time during which the comfort level is exceeded, the addition is insubstantial, the Zoning Administrator may grant an exception. The Zoning Administrator shall not grant an exception and no building or addition shall be permitted that causes equivalent wind speeds to reach or exceed the hazard level of 26 miles per hour for a single hour of the year (Section 249.1(b)(3)(B).

Planning Code Section 249.1(c) Rincon Hill SUD Residential Subdistrict Controls

The provisions applicable to an RC-4 Use District apply in the Residential subdistrict except as specifically provided in this section. This section describes those provisions listed in Sections 209.1 and 209.2 related to dwellings and other housing.

Uses. Principal permitted uses include dwellings; group housing for boarding, religious orders; medical and educational institutions; hotels, inns or hostels; and uses permitted in an RC-4 District provided the residential-to-nonresidential ratio of 6:1 is maintained. Uses along grade-level street frontages must be confined to residential lobbies, parking access, and office and retail uses. At least half of the total width of any new building parallel to and facing the street must be devoted at ground level to building entrances or display windows.

Density. The Residential subdistrict controls provide no density limits. Density in this subdistrict is controlled by height and bulk limits.

Setback. A minimum of 50 percent of the building frontage above 50 feet in height must be set back a minimum of 25 feet from the front property line.

Open Space. Open space is required to be provided at a ratio of 1 sq. ft. per 13 sq. ft. of gross floor area of dwelling units. The open space requirement may be met by private usable open space or publicly accessible open space, provided that no more than 40 percent of the open space requirement is met with the provision of private usable open space. Publicly accessible open space includes sidewalk widening, a pedestrian overpass, a recreation facility on the roof of a parking garage, a pedestrian street, or a publicly accessible area with a scenic overlook. Open space may be provided on those portions of the site not developed pursuant to the site coverage requirements.

Parking Requirements. In the Residential subdistrict, at least one and no more than one parking space is required for each dwelling unit. Parking in excess of one parking space for each dwelling unit would not be considered to be an accessory use and therefore would require a conditional use authorization. Parking for all other uses is required at a ratio of one space for each 1,500 occupied square feet. Parking may not occupy the first two stories above grade within 25 feet of the street. However, parking for residential units on pedestrian streets may be provided at ground level.

Planning Code Section 249.1(d) Rincon Hill SUD Commercial/Industrial Subdistrict Controls

The provisions applicable to an M-1 Use District apply in the Commercial/Industrial subdistrict except as specifically provided below.

Density. Dwellings may be provided at a ratio of not to exceed one dwelling unit for each 200 sq. ft. of lot area. Density in this subdistrict is otherwise controlled by height and bulk limits.

Open Space. Open space is required to be provided at a ratio of 1 sq. ft. per 50 sq. ft. of gross floor area of all uses except dwelling units. Publicly accessible open space, but no other type of open space, may be provided on those portions of the site not developed pursuant to the requirements of Section 249.1(b)(1). Open space requirements for dwelling units are governed by Section 135 (Usable Open space for Dwelling Units) of the *Planning Code* (36 sq. ft. per unit if the open space is private; 48 if the open space is common).

Parking Requirements. All uses other than dwelling units shall be provided with one parking space for 1,000 sq. ft. of occupied floor area unless Section 151 imposes a lesser requirement for a particular use, in which case the lesser requirement would apply. For dwelling units, at least one and no more than one parking space is required for each unit; parking spaces above this one-to-one ratio may be provided but would be included in the floor-area-ratio and site coverage calculations, exceedance of 80 percent of which would require a conditional use authorization.

The project would not be allowable as proposed under the current Rincon Hill SUD, due to residential density limits in the Commercial/Industrial subdistrict, the provision of less than 720 independently accessible parking spaces, and other reasons. If the *Rincon Hill Plan* is not amended and the proposed DTR district is not adopted, the project sponsor would apply for reclassification of the height/bulk designations for the project site and rezoning (which would require the approval of the Planning Commission and the Board of Supervisors, as well as signature by the Mayor) to allow for the proposed project. A conditional use permit may be required, depending on the provisions of the proposed rezoning.

Existing Height and Bulk Districts

The project site is within 200-R (northern portion of the site) and 84-X (southern portion of Lot 9) Height and Bulk Districts (200- and 84-foot basic height limits, respectively). The "R" bulk district indicates there are 200-foot maximum allowable length and diagonal plan dimensions above 51 feet and 110-foot maximum length and 125-foot maximum diagonal dimension limits above 105 feet, while the "X" bulk limit indicates that there are no bulk requirements.

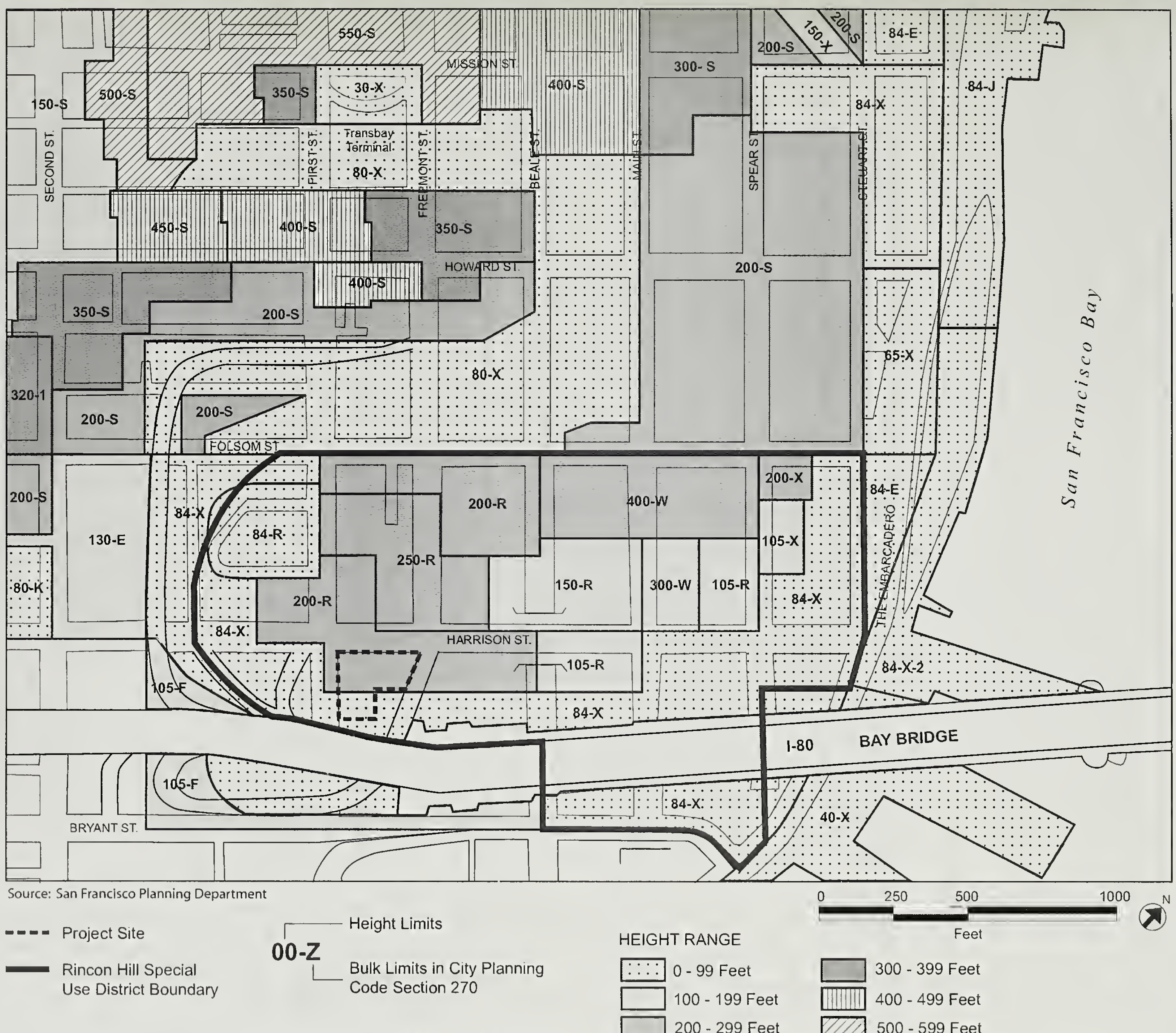
The 450- and 550-foot-tall project towers would not be allowable as proposed under current controls. If the *Rincon Hill Plan* (Preferred Option or 82.5-Foot Tower Separation Option) is not amended and the proposed DTR district is not adopted, the project sponsor would apply for rezoning (which would require the approval of the Planning Commission and the Board of Supervisors, as well as signature by the Mayor), including a height/bulk district reclassification (a map amendment) that would change the northern portion of the site from 200 feet to 450 feet and the southern portion of the site from 84 feet to 550 feet, and modify bulk controls. See Figure 14 on page 31 for a map of existing height and bulk districts in the vicinity.

Proposed Rincon Hill DTR District

As described above, the project site is located within the Rincon Hill SUD which, as *Planning Code* Section 249.1, implements the *General Plan* and the *Rincon Hill Area Plan* of the *General Plan*, in which area the project site is located. The Planning Department has published draft proposals[2] to create a Rincon Hill DTR district that would replace the current Rincon Hill SUD. The DTR district, as currently drafted, would increase height limits and make other changes intended to stimulate and guide high-density residential development in the Rincon Hill neighborhood. In relation to the project site, the DTR district would increase the allowable height on the north portion of the project site, currently in a 200-R Height/Bulk District, to 450 feet and would increase the allowable height on the south portion of the site, currently in an 84-X Height/Bulk District, to 550 feet. Amendments are also proposed to the bulk, tower separation, setback, open space, parking and ground-level treatment requirements.

Amendments to the *General Plan* and *Planning Code*, including text and zoning map changes, would be required for the Rincon Hill DTR District, or for the project if the DTR were not adopted. The Planning Department

[2] The *Rincon Hill Plan, Draft for Public Discussion*, was published in November, 2003. The Planning Department distributed the *Rincon Hill Plan Refinements*, a supplement to the *Rincon Hill Plan*, in March 2004 and a Supplement to the proposed plan in September 2004. The September Supplement included the revisions of the March 2004 Refinements document.



Source: San Francisco Planning Department

Figure 14 - Existing Height and Bulk Districts in the Project Vicinity

published a Draft EIR in September 2004 (Case No. 2000.0181E), and is currently preparing the Final EIR for the *Rincon Hill Plan*/DTR district proposal. The DTR District requires adoption by the Planning Commission and Board of Supervisors and the signature of the Mayor. The proposed project is designed to be consistent with the proposed DTR district; furthermore, if the proposed *Rincon Hill Plan* (Preferred Option or 82.5-Foot Tower Separation Option) is adopted, then the project's current inconsistencies with the *Planning Code* would be avoided. Figure 16 on page 34 shows the use districts in the proposed *Rincon Hill Plan*. These can be compared with the special use subdistricts in the *Rincon Hill Area Plan* (Figure 15, page 33). Figure 17 on page 35 shows the proposed height and bulk districts under the proposed *Rincon Hill Plan*.

GENERAL PLAN OBJECTIVES

Before approving a permit for any project requiring an Initial Study under the California Environmental Quality Act (CEQA), or issuing a permit for any demolition, conversion, or change of use, the City is required to find that the proposed project is consistent with the eight *General Plan* Priority Policies established by Section 101.1 to the *Planning Code*. The Planning Commission's review of the project for consistency with the Priority Policies will take place during its review of the required project approvals outlined in the Project Approvals section. The Priority Policies are: preservation and enhancement of neighborhood-serving retail uses; protection of neighborhood character; preservation and enhancement of affordable housing; discouragement of commuter automobiles; protection of industrial and service sectors from commercial office development and enhancement of resident employment and business ownership; earthquake preparedness; landmark and historic building preservation; and protection of open space.

The *General Plan*, which provides general policies and objectives to guide land use decisions, contains some policies that relate to physical environmental issues. The Planning Department, the Zoning Administrator, the Planning Commission and other City decision makers will evaluate the proposed project in accordance with provisions of the *General Plan*, including those in the existing *Rincon Hill Area Plan* and the proposed amendments to the *Rincon Hill Plan*, and will consider potential conflicts with these plans as part of the decision making process. This consideration of *General Plan* objectives and policies is carried out independent of the environmental review process, as part of the decision to approve, modify, or disapprove a proposed project. Potential conflicts with provisions of the *General Plan* that would cause physical environmental impacts have been evaluated as part of the impacts analysis carried out for relevant, specific topics in the project EIR and Initial Study (see Appendix A). Any potential conflicts with *General Plan* objectives and policies not identified in the EIR could be considered in the project evaluation process and would not alter the physical environmental effects of the proposed project. Some of the key objectives and policies of the *General Plan* are as follows:

<u>Housing Element</u>

OBJECTIVE 1: TO PROVIDE NEW HOUSING, ESPECIALLY PERMANENTLY AFFORDABLE HOUSING, IN APPROPRIATE LOCATIONS WHICH MEETS IDENTIFIED HOUSING NEEDS AND TAKES INTO ACCOUNT THE DEMAND FOR AFFORDABLE HOUSING CREATED BY EMPLOYMENT DEMAND.

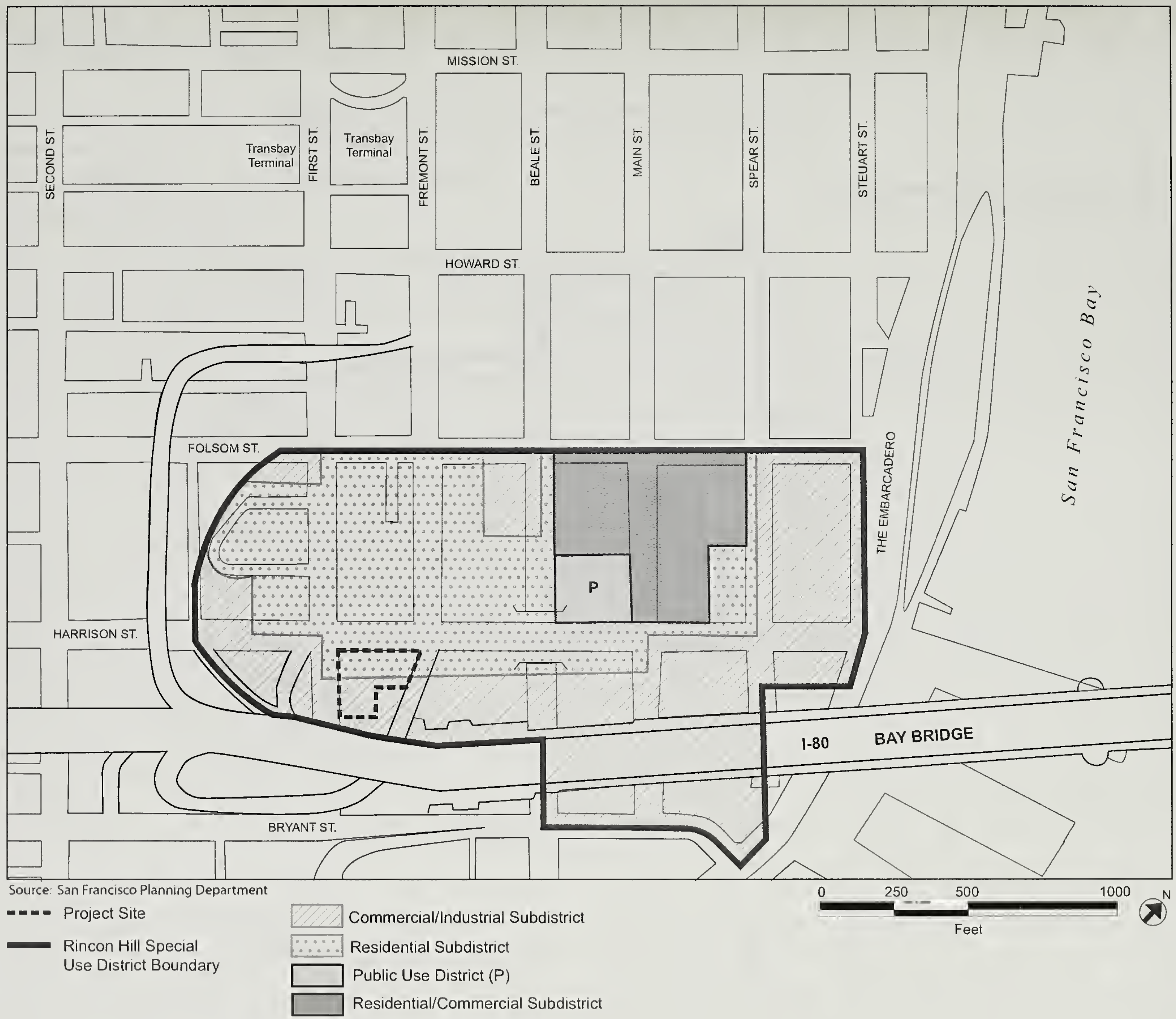
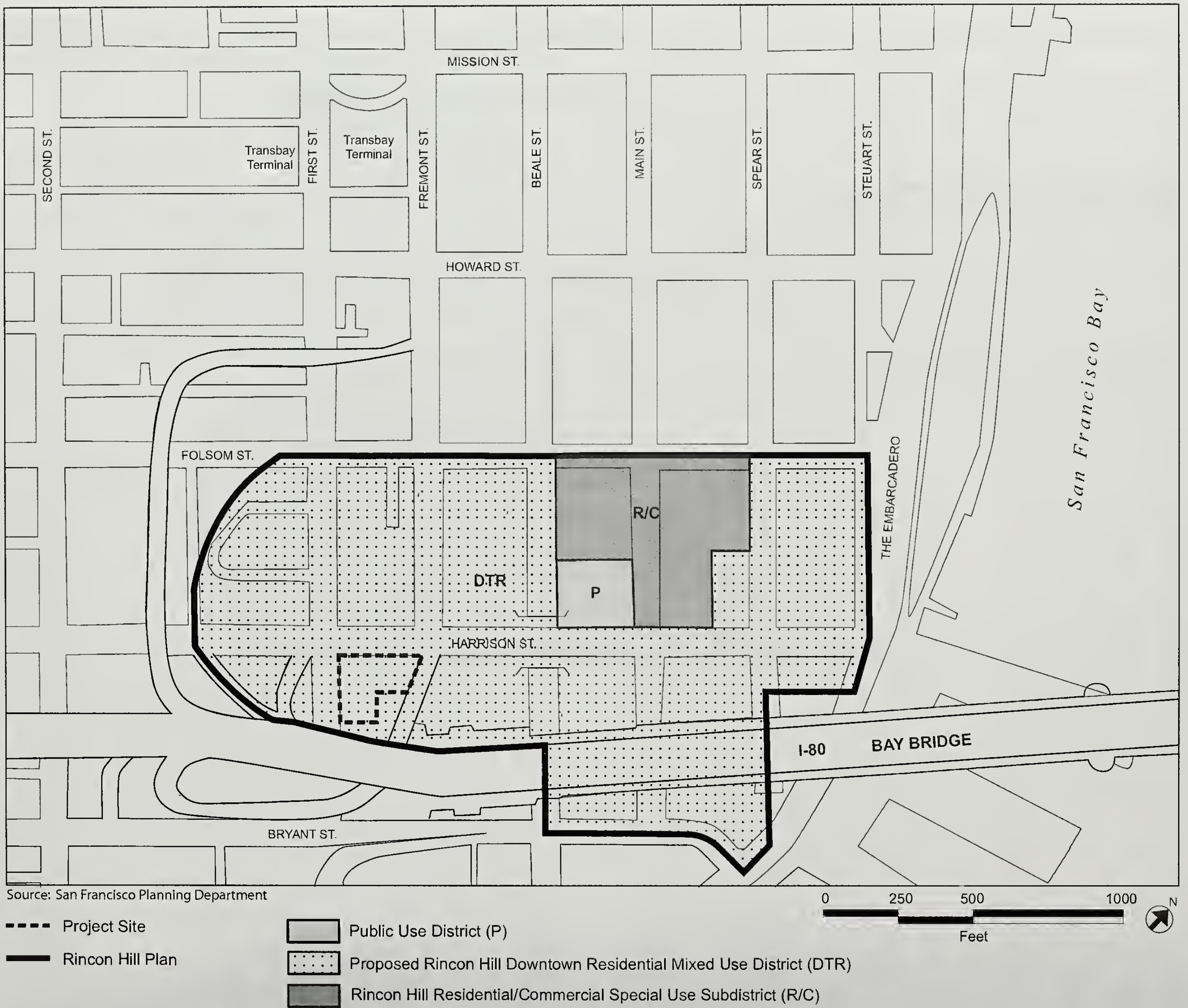
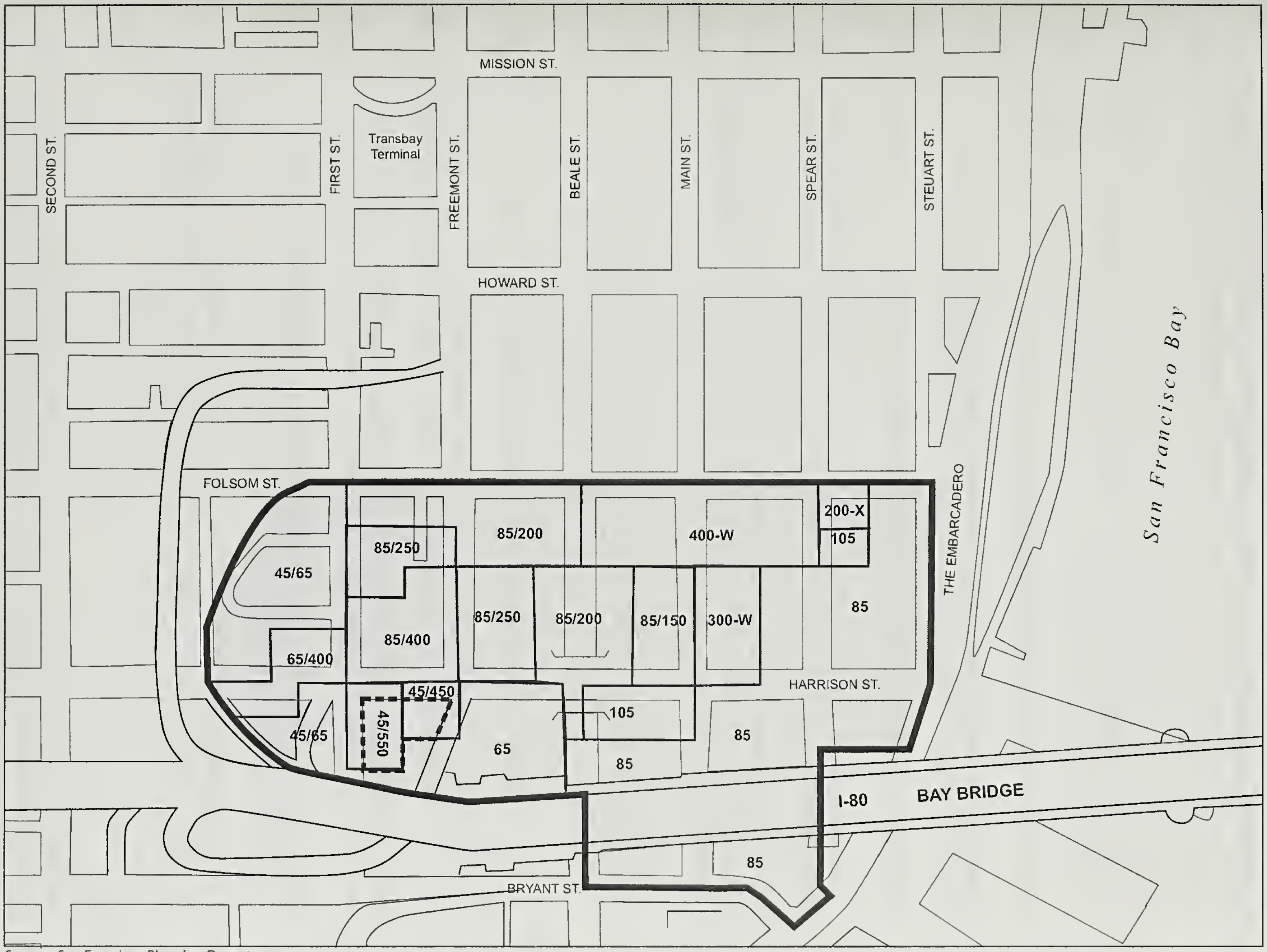


Figure 15 - Existing Rincon Hill Area Plan Special Use Subdistricts



Source: San Francisco Planning Department

Figure 16 - Proposed Rincon Hill Plan Use Districts



Source: San Francisco Planning Department

Project Site

Rincon Hill Plan Boundary

00-Z — Maximum Podium Height / Maximum Tower Height

Figure 17 - Proposed Height and Bulk Districts in the Rincon Hill Plan Area

Policy 1.1:	Encourage higher residential density in areas adjacent to downtown, in underutilized commercial and industrial areas proposed for conversion to housing, and in neighborhood commercial districts where higher density will not have harmful effects, especially if the higher density provides a significant number of units that are affordable to lower income households. Set allowable densities in established residential areas at levels which will promote compatibility with prevailing neighborhood scale and character where there is neighborhoods support.
OBJECTIVE 4:	SUPPORT AFFORDABLE HOUSING PRODUCTION BY INCREASING SITE AVAILABILITY AND CAPACITY.
Policy 4.2:	Include affordable units in larger housing projects.
Policy 6.5:	Monitor and enforce the affordability of units provided as a condition of approval of housing projects.
OBJECTIVE 8:	ENSURE EQUAL ACCESS TO HOUSING OPPORTUNITIES.
Policy 8.4:	Encourage greater economic integration within housing projects and throughout San Francisco.
Policy 8.9:	Encourage the provision of new home ownership opportunities through new construction so that increased owner occupancy does not diminish the supply of rental housing.
OBJECTIVE 11:	IN INCREASING THE SUPPLY OF HOUSING, PURSUE PLACE MAKING AND NEIGHBORHOOD BUILDING PRINCIPLES AND PRACTICES TO MAINTAIN SAN FRANCISCO'S DESIRABLE URBAN FABRIC AND ENHANCE LIVABILITY IN ALL NEIGHBORHOODS.
Policy 11.1:	Use new housing development as a means to enhance neighborhood vitality and diversity.
Policy 11.2:	Ensure housing is provided with adequate public improvements, services and amenities.
Policy 11.3:	Encourage appropriate neighborhood-serving commercial activities in residential areas, without causing affordable housing displacement.
Policy 11.5:	Promote the construction of well-designed housing that enhances existing neighborhood character.
Policy 11.8:	Strongly encourage housing project sponsors to take full advantage of allowable building densities in their housing developments while remaining consistent with neighborhood character.

<u>Urban Design Element</u>

OBJECTIVE 1:	EMPHASIS OF THE CHARACTERISTIC PATTERN WHICH GIVES TO THE CITY AND ITS NEIGHBORHOODS AN IMAGE, A SENSE OF PURPOSE, AND A MEANS OF ORIENTATION.

Policy 1.1:	Recognize and protect major views in the city, with particular attention to those of open space and water.
Policy 1.3:	Recognize that buildings, when seen together, produce a total effect that characterizes the city and its districts.
Policy 2.4:	Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.
Policy 2.6:	Respect the character of older development nearby in the design of new buildings.
Policy 2.8:	Maintain a strong presumption against the giving up of street areas for private ownership or use, or for construction of public buildings.
Policy 2.9	Review proposals for the giving up of street areas in terms of all the public values that streets afford.
Policy 2.10:	Permit release of street areas, where such release is warranted, only in the least extensive and least permanent manner appropriate to each case.
OBJECTIVE 3:	MODERATION OF MAJOR NEW DEVELOPMENT TO COMPLEMENT THE CITY PATTERN, THERESOURCES TO BE CONSERVED, AND THE NEIGHBORHOOD ENVIRONMENT.
Policy 3.1:[3]	Promote harmony in the visual relationships and transitions between new and older buildings.
Policy 3.2:	Avoid extreme contrasts in color, shape and other characteristics which will cause new buildings to stand out in excess of their public importance.
Policy 3.3:	Promote efforts to achieve high quality of design for buildings to be constructed at prominent locations.
Policy 3.5:[4]	Relate the height of buildings to important attributes of the city pattern and to the height and character of existing development.
Policy 3.6:	Relate the bulk of buildings to the prevailing scale of development to avoid an overwhelming or dominating appearance in new construction.
Policy 3.7:	Recognize the special urban design problems posed in development of large properties.
Policy 4.1:	Protect residential areas from the noise, pollution and physical danger of excessive traffic.

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3 This policy may be amended by the *Transbay Redevelopment Plan*, which is currently being reviewed by the Board of Supervisors for approval (Board of Supervisors will hold a hearing on adopting the *Transbay Redevelopment Plan* on March 29, 2005; however, it is not known if the Board of Supervisors will vote on that date to adopt the plan.

4 This policy may be amended by the *Transbay Redevelopment Plan*, which is currently being reviewed by the Board of Supervisors for approval (Board of Supervisors will hold a hearing on adopting the *Transbay Redevelopment Plan* on March 29, 2005; however, it is not known if the Board of Supervisors will vote on that date to adopt the plan.

Policy 4.2: Provide buffering for residential properties when heavy traffic cannot be avoided.

Policy 4.11: Make use of street space and other unused public areas for recreation.

Policy 4.13: Improve pedestrian areas by providing human scale and interest.

<u>Transportation Element</u>

OBJECTIVE 1: MEET THE NEEDS OF ALL RESIDENTS AND VISITORS FOR SAFE, CONVENIENT AND INEXPENSIVE TRAVEL WITHIN SAN FRANCISCO AND BETWEEN THE CITY AND OTHER PARTS OF THE REGION WHILE MAINTAINING THE HIGH QUALITY LIVING ENVIRONMENT OF THE BAY AREA.

Policy 1.2: Ensure the safety and comfort of pedestrians throughout the city.

Policy 1.3: Give priority to public transit and other alternatives to the private automobile as the means of meeting San Francisco's transportation needs, particularly those of commuters.

Policy 2.5: Provide incentives for the use of transit, carpools, vanpools, walking and bicycling and reduce the need for new or expanded automobile and automobile parking facilities.

OBJECTIVE 3: MAINTAIN AND ENHANCE SAN FRANCISCO'S POSITION AS A REGIONAL DESTINATION WITHOUT INDUCING A GREATER VOLUME OF THROUGH AUTOMOBILE TRAFFIC.

Policy 11.3: Encourage development that efficiently coordinates land use with transit service, requiring that developers address transit concerns as well as mitigate traffic problems.

<u>Open Space and Recreation Element</u>

Policy 2.3: Preserve sunlight in public open spaces.

Existing Rincon Hill Area Plan

The existing *Rincon Hill Area Plan*, an element of the *General Plan*, describes itself as a Plan for the emergence of a new mixed-use neighborhood on Rincon Hill, a twelve-block area close to downtown, and states that "This area is highly visible because it is framed by the Bay Bridge and the ramps leading to the Embarcadero Freeway." Rincon Hill is described in the *Rincon Hill Area Plan* as a "high priority housing site" because it is a "large area and one in which some high-rise buildings would be appropriate," "the land is presently underused," and "[h]high-rise and mid-rise buildings on Rincon Hill can enjoy some of the best vistas of the Bay." The existing *Rincon Hill Area Plan* recognizes two sub-districts: a residential subarea, located in the core of the area, and a commercial/industrial subarea, generally located along the perimeter of the Rincon Hill area. An additional subdistrict, Rincon Hill Residential/Commercial Special Use Subdistrict, was approved by the Board of Supervisors in February 2004. The northern part of the site (Lots 1 and 15 and northern half of Lot 9) is the residential subdistrict and the southern half of Lot 9 along First Street is the commercial/industrial subdistrict.

Some key objectives, goals, and policies of the *Rincon Hill Area Plan*, relevant to the proposed project, are as follows:

Land Use

OBJECTIVE 1: TO CREATE A UNIQUE RESIDENTIAL NEIGHBORHOOD CLOSE TO DOWNTOWN WHICH WILL CONTRIBUTE SIGNIFICANTLY TO THE CITY'S HOUSING SUPPLY.

OBJECTIVE 2: TO CREATE SPACE FOR ADDITIONAL USES WHICH WILL PROVIDE NEEDED SERVICES FOR THE RESIDENT POPULATION.

OBJECTIVE 3: TO ALLOW EXISTING INDUSTRIAL, SERVICE AND OFFICE USES TO REMAIN AND CREATE NEW SUCH USES IN DESIGNATED LOCATIONS.

Housing

OBJECTIVE 4: TO PROVIDE QUALITY HOUSING IN A PLEASANT ENVIRONMENT THAT HAS ADEQUATE ACCESS TO LIGHT, AIR, AND OPEN SPACE.

OBJECTIVE 5: TO LOWER THE COST OF HOUSING TO MAKE IT MORE AFFORDABLE.

Urban Design

OBJECTIVE 7: TO ACHIEVE AN AESTHETICALLY PLEASING RESIDENTIAL COMMUNITY.

OBJECTIVE 8: TO CAPITALIZE ON THE UNIQUE QUALITIES OF RINCON HILL, SPECIFICALLY ITS SWEEPING VIEWS OF THE BAY, ITS PROXIMITY TO DOWNTOWN, AND ITS RELATIONSHIP TO THE WATERFRONT AND BAY.

OBJECTIVE 9: TO RESPECT THE NATURAL TOPOGRAPHY OF THE HILL AND FOLLOW THE POLICIES ALREADY ESTABLISHED IN THE URBAN DESIGN ELEMENT WHICH RESTRICT HEIGHT NEAR THE WATER AND ALLOW INCREASED HEIGHT ON THE TOP OF HILLS.

OBJECTIVE 10: TO PRESERVE VIEWS OF THE BAY AND THE BAY BRIDGE WHICH ARE AMONG THE MOST IMPRESSIVE IN THE REGION.

OBJECTIVE 11: TO MAINTAIN VIEW CORRIDORS THROUGH THE AREA BY MEANS OF HEIGHT AND BULK CONTROLS WHICH INSURE CAREFULLY SPACED SLENDER TOWERS RATHER THAN BULKY, MASSIVE BUILDINGS.

OBJECTIVE 12: TO REDUCE THE PRESENT INDUSTRIAL SCALE OF THE STREETS BY CREATING A CIRCULATION NETWORK THROUGH THE INTERIOR BLOCKS, CREATING A STREET SCALE COMPARABLE TO THOSE IN EXISTING RESIDENTIAL AREAS ELSEWHERE IN THE CITY.

OBJECTIVE 14: TO KEEP WIND SPEEDS AT A COMFORTABLE LEVEL.

OBJECTIVE 15: TO ENCOURAGE A HUMAN SCALE STREETSCAPE WITH ACTIVITIES AND DESIGN FEATURES AT PEDESTRIAN EYE LEVEL.

Recreation and Open Space

OBJECTIVE 16: TO DEVELOP FACILITIES FOR PASSIVE AND ACTIVE RECREATION SERVING RESIDENTS, EMPLOYEES AND VISITORS.

OBJECTIVE 17: TO LINK THE AREA TO THE MAJOR PUBLIC OPEN SPACES AND TO THE WATERFRONT PROMENADE AT THE FOOT OF THE HILL.

OBJECTIVE 20: TO CREATE AN INVITING AND PLEASANT PEDESTRIAN CORRIDOR TO THE FINANCIAL DISTRICT.

Circulation

OBJECTIVE 21: TO CREATE SAFE AND PLEASANT PEDESTRIAN NETWORKS WITHIN THE RINCON HILL AREA, TO DOWNTOWN, AND THE BAY.

OBJECTIVE 24: TO PROVIDE SUFFICIENT OFF STREET PARKING SPACE FOR RESIDENTS.

OBJECTIVE 26: TO REDUCE CONGESTION AT BRIDGE RAMPS BY IMPROVING LOADING PATTERNS.

Preservation

OBJECTIVE 27: TO PRESERVE AND ADAPTIVELY REUSE THOSE BUILDINGS IN THE AREA WHICH HAVE PARTICULAR ARCHITECTURAL OR HISTORICAL MERIT OR WHICH PROVIDE A SCALE AND CHARACTER OF DEVELOPMENT CONSISTENT WITH THE PLAN.

Proposed Rincon Hill *General Plan* Amendments

More than a decade of planning, initiated after destruction of some transportation infrastructure during the Loma Prieta Earthquake of 1989, preceded the current effort to transform Rincon Hill into a dynamic mixed-use neighborhood. The proposed amendment to the *Rincon Hill Plan* is in part a result of Metropolitan Transportation Commission's *Transbay Terminal Improvement Plan*, which includes a vision of high-density residential developments on Folsom and Beale Streets in the Rincon Hill area. The proposed amendment of the *Rincon Hill Plan* is part of the ongoing comprehensive planning effort for the larger downtown area embodied in the Downtown Neighborhoods Initiative, which in turn is a part of the Citywide Action Plan (CAP). The proposed *Rincon Hill Plan* includes the changes made to the *Rincon Hill Area Plan* by the *The Rincon Hill Plan: Draft for Public Discussion*, published in November 2003, and *Supplement to the Rincon Hill Area Plan*, published in September, 2004. These two documents constitute the proposed *Rincon Hill Plan.* The proposed *Rincon Hill Plan* includes amendments of the existing *Rincon Hill Area Plan*, as well as changes to zoning and height and bulk controls, which are discussed below. The September 2004 supplement includes revisions to the *Rincon Hill Area Plan* along with additional proposals for changes to current policies and objectives, including those on off-street parking, off-street loading, open space easements, preservation (particularly of the Union Oil Company office building and clock tower), and implementation. The proposed project is designed to be consistent with the Preferred Option and the 82.5-Foot Tower Separation Option but not with the Existing Control Option of the proposed amendments to *Rincon Hill Plan.*

Conclusion - Consistency with Relevant Objectives and Policies

The proposed project would be generally consistent with the Objectives and Policies of the *General Plan.* It would be consistent with Housing Element policies because the project would provide higher density new housing in an area adjacent to downtown which is targeted by City policy, include new family-sized units and inclusionary affordable units, would create homeownership opportunities, and include public improvements, and services, and amenities for residents.

In general, the proposed project responds to most of the above objectives and policies of the Urban Design Element. The project's towers would be spaced at least 115 feet apart. The project would introduce buildings that would be substantially taller than existing buildings in the vicinity. Specifically, the project would create two slender buildings 450 feet and 550 feet tall in the immediate vicinity which is currently characterized by mostly low-rise and mid-rise structures, although there are a number of 200- and 250-foot tall buildings as well as planned highrises in the *Rincon Hill Plan* area. Until planned highrises are built, the two towers would stand out because of their height compared to the surrounding buildings. However, if additional high-rise buildings are constructed on Rincon Hill as planned, the project towers would become part of a planned mass of high-rise buildings in the Rincon Hill neighborhood. The project would respond to urban design objectives of the Urban Design Element and to the existing and proposed *Rincon Hill Plan* that call for development to respect the City's natural topography, including increased heights on the tops of hills.

The project would remove an architecturally significant structure (the existing Union Oil Company Building and its clock tower), as discussed in detail in Section III.G. The base of the project is intended to respect the character of older development nearby and would contain design elements reflective of the existing structure on the site (specifically, the towers are intended to retain the strongly vertical lines reflective of the existing clock tower). However, the project would replace a Streamline Moderne structure with two contemporary towers that would be dramatically different in scale and design from the existing structure.

The project's slender towers would not relate to the prevailing scale of bulkier existing and proposed mid-rise developments in the area, although they would relate to the high-rises planned for in the proposed amendments to *Rincon Hill Plan.*

The project would improve public open space in the area by including wider sidewalks on two sides of the site and landscaping on four sides of the site in an area currently devoid of streetscape. In general, the project would be consistent with the Transportation Element, as it would contain bike storage and would be located within walking distance of variety of public transit systems, including multiple MUNI lines, the Transbay Terminal, and BART on Market Street, thus encouraging the use of alternative modes of transportation. It also includes widened landscaped sidewalks that improve pedestrian comfort and safety over the existing site conditions. Additionally, the project would not conflict with any ongoing or proposed public transit improvements. The project would landscape for public use a public right of way, the First Street stub.

The proposed project is mostly consistent with the objectives of the existing *Rincon Hill Area Plan*, as it would 1) provide a large number of residential units and commercial space and residential amenities to provide services to residents, 2) provide light, air and open space both for residents and at street level for the public, 3) provide high quality housing, 4) provide residential development intended by the sponsor to be aesthetically pleasing, 5) provide Bay views to the residents, 6) provide two high-rise buildings on the top of Rincon Hill, 7) provide slender towers which from most views preserve view corridors, 8) provide landscaped streetscape for pedestrians, 9) provide private recreational facilities and spaces for residents, 10) provide widened and landscaped sidewalks on Harrison Street connecting to the waterfront at the Embarcadero and streetscapes on First Street which could serve as the upper end of pedestrian corridors to the Financial District, 11) provide off-street parking, and 12) provide off-street loading space.

The project could potentially conflict with the *Rincon Hill Area Plan* as it would remove the potential for office uses to remain at the site in the existing Union Oil Company office building complex, which is, except for the garage, an historic resource eligible in the California Historic Register. However, that office building is currently vacant, and no industrial uses are present onsite. The project may partially block views of the Bay Bridge from some vantage points, such as Dolores Park, as well as eastbound traffic on I-80.

Because of the potential conflicts with the existing *Rincon Hill Area Plan*, which identifies the Union Oil Company Building as significant and worthy of preservation, *General Plan* amendments may be required to allow for the proposed project, unless the proposed amendments to the *Rincon Hill Plan* are adopted first. If the proposed amendment to *Rincon Hill Plan* is adopted, potential inconsistencies would be avoided and the project would be consistent with the proposed amended plan.

To the extent that physical environmental impacts may result from conflict with a General Plan policy, such environmental impacts are analyzed elsewhere in this EIR. The General Plan contains many policies that may address differing and seemingly inconsistent goals. In addition to consideration of inconsistencies affecting environmental issues, other potential inconsistencies with the General Plan are considered by the Planning Commission independently of the environmental review process, as part of their decision to approve or disapprove a proposed project. Any potential conflict not identified in this environmental document would be considered in that context, and would not alter the proposed project's physical environmental effects, which are analyzed in this EIR.

Conclusion

The proposed project is consistent with most plans and policies for the site but would potentially conflict with several objectives and policies of the adopted *General Plan*, *Rincon Hill Area Plan* and Rincon Hill SUD, as noted in the text above. If these plans, policies and zoning were not amended separately from the project (as is proposed in the amendment to the *Rincon Hill Plan*), then the project sponsors would apply for plan amendments and rezoning for the project.

The proposed project is consistent with the Preferred Option and the 82.5-foot Tower Separation Option of the proposed *Rincon Hill Plan*; however it would be inconsistent with the Existing Controls Option. Development foreseen under the *Rincon Hill Plan*, coupled with the currently proposed *Transbay Redevelopment Plan* would ultimately lead to a more intense urban character of both areas. If the full package of proposed planning controls is implemented, the mix of land uses would bridge the predominately high-density, intensive commercial uses to the north in the downtown core with a mix of residential, commercial, support and open space uses in the Transbay Area giving way to predominately high-density residential uses within Rincon Hill.

Cumulative Land Use Impacts

There are several rezoning studies in the area, including the Downtown Neighborhoods Initiative (of which the *Rincon Hill Plan* and the *Transbay Redevelopment Plan* are the first pieces), the Eastern Neighborhoods community planning process (for Bayview Hunters Point, Showplace Square/Potrero Hill, Mission, and South of Market), the Better Neighborhoods Program, the proposed amendment to the *Rincon Hill Plan*, and the *Transbay Redevelopment Plan.* In addition, Caltrans is engaged in a massive seismic safety project to rebuild and reinforce the major freeway artery through downtown San Francisco. A demolition and replacement project of the West Approach to the Bay Bridge is the section of roadway between the suspension bridge and Fifth Street including all on and off-ramps. Work on the seismic retrofit of the west span of the Bay Bridge was completed in the summer of 2004.[5] Caltrans estimates the seismic retrofit work on the West Approach will be completed in Winter 2009.

The Planning Department launched a planning effort in 2003 for the downtown area. The *Downtown Neighborhoods Initiative* is intended to provide a comprehensive strategy for strengthening the vitality of the downtown by encouraging new housing production and creating balanced, livable neighborhoods in and around the downtown core. The goals of the Initiative is to establish a vital regional heart, provide a range of housing opportunities, provide balanced downtown neighborhoods that support urban living, provide a rich variety of uses and activities, and provide a balanced range of transportation choices. This initiative will set the stage for as many as approximately 40,000 new housing units downtown, scattered through a number of planning areas including Rincon Hill. Other planning areas of this Initiative includes the Van Ness Corridor, Market/Octavia, SoMa West, C-3 District, Transbay Terminal Area, SoMa, Showplace Square, Mid-Market, YBC, Mission Bay, and South Beach.

In late 2001, the Planning Commission directed the Planning Department to initiate the Eastern Neighborhoods community planning process for four areas: Bayview Hunters Point, Showplace Square/Potrero Hill, Mission, and South of Market. The purpose of the process was to address the broad range of issues involved in formulating permanent controls on the City's last remaining industrially zoned lands and its surrounding residential and commercial neighborhoods. A series of workshops were conducted to determine how the industrially zoned land should be used in the future. The *Community Planning in the Eastern Neighborhood, Rezoning Options Workbook – First Draft* was published in February 2003; this document

5 See Caltrans West Approach website: http://www.dot.ca.gov/dist4/safer.

identified three rezoning options for the redevelopment of the area, ranging from development of an additional 16,200 units to 28,500 units.

The Planning Commission's consideration of the options for each neighborhood can refine these options or develop new ones using ideas presented in the overall spectrum of options. Ultimately, the main options for each neighborhood will be forged into a proposed rezoning for the Eastern Neighborhoods, a comprehensive effort consistent with the *San Francisco General Plan*. The adopted option would revise the existing Planning Code.

The Planning Department has established the Better Neighborhoods 2002 program intended to help make San Francisco's urban neighborhoods the "best places of change to build more balanced and livable places in San Francisco." The program is two-tiered. Citywide, it aims to encourage housing where it makes sense and to strengthen neighborhoods. Locally, the program uses intensive community-based planning to refine citywide goals to the needs of the neighborhood. Above all, the program builds on the positive aspects of San Francisco's quality as an urban place. The Planning Department is currently preparing the first three neighborhood plans, which are Market & Octavia, Central Waterfront, and Balboa Park.

Implementation of the proposed project could result in new residential units, retail space, and common and private open space at the project site. The project is one of a number of other proposed developments that have been constructed, are under construction, are under review, or that are planned within the *Rincon Hill Plan* area. Currently, five projects are being reviewed that are within a block of each other, including the 350 Fremont Street (333 units and 333 below-grade parking spaces), the 45 Lansing Street (275 units and 275 below-grade parking spaces), the 375 Fremont Street (250 residential units and 250 below-grade parking spaces), 333 Fremont Street (88 residential units and 88 below-grade parking spaces), 385-399 Fremont Street (183 residential units and 224 below grade parking spaces), and the proposed project. The five projects would provide about 1,399 residential units and up to 1,440 off-street parking spaces. The cumulative land use impacts of the proposed project coupled with other developments within the *Rincon Hill Plan* area would increase the density of residential use in Rincon Hill neighborhood. However, these land uses are generally consistent with the existing *Rincon Hill Area Plan* and the proposed amendments to this plan.

In general, the proposed project would continue development of Rincon Hill as a primarily residential neighborhood, consistent with the trend since the adoption of the existing *Rincon Hill Area Plan* in 1985. The proposed project would be consistent with the development over the last few years, as well as the existing *Rincon Hill Area Plan* and the proposed *Rincon Hill Plan*, which would implement separation between towers and provide neighborhood services and amenities. Implementation of the Rincon Hill DTR district and the Transbay Terminal Redevelopment project would have the cumulative effect of intensifying land uses in currently underdeveloped areas of the city adjacent to downtown. The project would result in about 720 dwelling units, out of the about 2,200 units of cumulative new development under the proposed *Rincon Hill Plan*. Buildout of the *Rincon Hill Area Plan* would produce a change in the character of the area, but the change would be in keeping with City goals.

The proposed project is also located in the vicinity (north) of the Transbay Redevelopment Project[6]. The Transbay Redevelopment Project area is roughly bounded by Mission Street in the north, Main Street in the east, Folsom Street in the south and Second Street in the west. The Transbay Redevelopment Project includes the construction of a major new multi-modal transit terminal on the site of the existing Transbay Terminal, the extension of Peninsula Corridor commuter rail service to the new terminal (Caltrain Extension), and the redevelopment of nearby irregular and underutilized parcels into a mixed-use, transit-oriented neighborhood consisting of nearly 3,400 new housing units, as well as office, hotel, and retail space. Development foreseen under the proposed *Rincon Hill Plan* and the *Transbay Redevelopment Plan* would ultimately lead to a more intense urban character of both areas. The mix of land uses would bridge the predominately high-density, intensive commercial uses to the north in the downtown core with a mix of residential, commercial, support and open space uses in the Transbay Area giving way to predominately high-density residential uses within *Rincon Hill Plan* area.

Implementation of the *Rincon Hill Plan* and the Transbay Terminal/Redevelopment project would have the cumulative effect of intensifying land uses in currently underdeveloped areas of the city adjacent to downtown. This could provide new opportunities for downtown employees to live in proximity to their workplaces. Together with cumulative development, however, the proposed project would neither disrupt nor divide the physical arrangement of an established community, nor would it have a substantial adverse impact on the existing character of the vicinity, and therefore cumulative land use impacts would be less than significant.

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[6] The Transbay Redevelopment Project EIR has been published and certified. The Redevelopment Commission has forwarded the document to the Board of Supervisors with the recommendation to approve the project. The earliest approval date would be in March 2005.

B. VISUAL QUALITY/URBAN DESIGN

The Initial Study determined that the project could have potential significant adverse visual quality effects; therefore this topic is evaluated in this section. This section first describes the general form of the greater downtown area, followed by a description of the visual character of the project vicinity. This is followed by a discussion of the visual quality and urban design effects of the project in relation to its surroundings.

Photographic views from seven locations have been prepared to illustrate the visual environment conditions in the project vicinity and at the project site under existing conditions and with the project (see Figure 18 Viewpoint Locations, page 51). Each existing view (denoted as "A. Existing View") provided in Figures 19-25 (pages 52-62) is shown alongside a visual simulation of the project (denoted as "B. View with Project") for comparison.

EXISTING VISUAL QUALITY AND URBAN DESIGN

General Downtown Form

A general pattern of densely clustered high-rise development in the downtown core, tapering off to low-rise development at its periphery, characterizes San Francisco's skyline. This compact urban form (the "downtown high-rise urban form") signifies the downtown as the center of commerce and activity. Despite its clarity of form, the downtown high-rise urban form is neither smooth nor uniform. A range of building heights in the downtown creates gaps, peaks, dips and inconsistencies within this pattern, allowing taller buildings and building tops to stand out in profile against the sky. This relationship between conformity and variety in the skyline results in a readable and recognizable image for San Francisco.

Historically, in the area south of the Transbay Terminal and north of the Bay Bridge approach from Main Street westward, the Transbay Terminal and its associated bus ramp system and rights-of-way, the two-deck Embarcadero freeway (demolished after the 1989 Loma Prieta Earthquake), and the distance from Market Street constrained post-World War II development in the general site vicinity[1]. Building heights along this southern edge of the downtown high-rise urban form tend to drop off abruptly. The downtown area immediately south of the Transbay Terminal is occupied by surface parking, bus ramp structures, Interstate 80 (I-80) freeway off-ramps, and low-rise early Twentieth Century buildings. New low- and mid-rise buildings have been constructed, are being constructed, or have been recently approved for this area, as noted later in this section. By contrast, east of Main Street, the transition from the high-rise downtown core southward is more tapered and gradual. This general effect is particularly evident when this area is viewed from the Bay Bridge approaching the City.

Comparatively low buildings along the waterfront (several to the east of the site) reinforce the decrease in height with elevation from hilltops to water that is characteristic of San Francisco; this pattern emphasizes views of the Bay. In the project vicinity, the transition from inland to the waterfront is marked by a gradual

[1] San Francisco Planning Department. *Rincon Hill Plan Draft Environmental Impact Report.* September 25, 2004.

stepping down of heights, as is encouraged by both the *Rincon Hill Area Plan* and the *Urban Design Element* of the *General Plan.*

This design approach acknowledges the meeting of land and water while respecting the natural topography of the area, and helps maintain a pedestrian-friendly scale and environment along the waterfront.

Rincon Hill Neighborhood[2]

Closer to the project site, the topography, buildings, and infrastructure are the major visual features in the Rincon Hill neighborhood. The visual character of Rincon Hill is varied, reflecting the evolution from an early 20th Century industrial and residential area to an urban neighborhood characterized by a mix of uses and building types, without a high degree of visual definition or coherence. The existing visual character of Rincon Hill is defined by its topography, location, and prevailing urban form; the geometry of its street grid and surrounding transportation infrastructure; and variety of building types, including early 20th Century warehouses and residential enclaves, contemporary office complexes, and most-recently, mid- and high-rise residential uses.

Rincon Hill's topography rises from the east near the waterfront at Spear Street to the west around First Street, and crests at approximately 100 feet above sea level. From the north at Folsom Street, Rincon Hill rises more gradually to the south to Harrison Street. Along its western side, Rincon Hill's topography steps down to Essex Street. From the south, the steep natural landform of Rincon Hill is visible between the Bay Bridge Anchorage and approaches along Bryant Street.

In 1847, Jasper O'Farrell extended the north of Market street grid to the South of Market (SOMA), overlaid on Rincon Hill's existing topography. The SOMA street grid shifts abruptly 45 degrees to the east along its diagonal alignment north of Market Street. Additionally, the SOMA was partitioned using the so-called "vara" grid street system and results, in the Rincon Hill area, in blocks about twice as large as those to Market Street's north. Transportation infrastructure influences the visual character of Rincon Hill by creating strong visual boundaries and voids within the proposed *Rincon Hill Plan* area. Near the foot of Folsom Street, where the now-demolished Embarcadero Freeway commanded the north side of the street for 30 years, the expanse of pavement and parked vehicles provides no visual amenity. This image is repeated on parts of the south side of the street, where commercial and US Postal Service (USPS) Annex parking lots are interspersed among scattered buildings. The restored Embarcadero Lofts (historic Coffin-Redington Building) on Beale Street, the Gap headquarters and Hills Plaza buildings at Spear Street, contrast against large expanses of asphalt parking lots.

The elevated span of the Bay Bridge West Approach dominates views in a southerly direction along Rincon Hill, and visually defines the southern extent of the proposed *Rincon Hill Plan* area. South of Bryant Street, mid-rise residential structures and a collection of warehouses in the South End Historic District set against the water's edge are characteristic of Rincon Hill's visual environment along the Bay.

2 Visual character description of Rincon Hill neighborhood is based on the following source: San Francisco Planning Department. *Rincon Hill Plan Draft Environmental Impact Report.* September 25, 2004.

The buildings in the western portion of Rincon Hill (northwest of the project site), bound by Folsom, First, Harrison and Essex Streets in the Guy-Lansing Street loop (Assessor Block 3749), convey their historic character in design and materials; the block's scale is mixed, as are its land uses. Predominately a residential enclave, the block is interrupted by two narrow, 35-foot-wide streets: Lansing, which dead-ends at Essex Street on the western end of the *Rincon Hill Plan* area, and Guy Place, which curves eastward to First Street. Building heights generally range from one to five stories (up to 85 feet), and front on the street with no setback. Mature street trees line portions of Guy Place. This pattern of narrow streets with smaller-scale development creates a sense of enclosure at the street level. Former light industrial uses are also located along First Street at the corners of Folsom Street and Guy Place. These buildings are of masonry construction, typically have larger footprints and are bulkier than other buildings within the block. In recent years, these buildings have been adaptively reused and converted to residential or office uses.

Since the mid 1980s, a number of residential buildings have been constructed on Rincon Hill. Residential buildings are located throughout the proposed *Rincon Hill Plan* area and Downtown Residential District. Examples include the moderne-inspired Portside Condominiums on Main and Harrison Streets; the residential tower at Hills Plaza along Spear Street; the jutting, angular Avalon Towers on Beale Street; the Bridgeview, on Beale Street, with the Baycrest Apartments to its west; and the Metropolitan, consisting of two towers along First and Folsom Streets. These buildings generally consist of a podium with one or two towers and range in height from 85 to 250 feet; some have balconies, and most orient the bulk of their towers east to take advantage of Bay views. Residential buildings are accessible from one or more entries; some, like Hills Plaza, are in mixed use buildings.

Despite its ongoing evolution into a residential neighborhood, Rincon Hill does not contain a high level of pedestrian amenity. Sidewalks are narrow, generally 10 to 12 feet, and as little as 7 feet along parts of Harrison Street, and contain no pedestrian street lighting. Overhead utility lines are visible along Folsom Street, and public seating and gathering areas are generally enclosed within private developments, though some buildings, such as Hills Plaza, provide publicly accessible pedestrian passageways with plazas. Landscaping is limited to a few locations along building frontages (e.g., along Spear Street). Neighborhood parks are deficient in the area, with the nearest public open spaces located along The Embarcadero (Rincon Point Park and Herb Caen Way), in SOMA (South Park) or at Yerba Buena Gardens, all outside of the *Rincon Hill Plan* area. Rincon Hill thus acts as a transition zone for the adjoining financial, waterfront, residential, service, industrial, and institutional uses, and with its visual character defined by an aggregation of parts of surrounding neighborhoods.

Immediate Project Vicinity

As with other areas of the Rincon Hill neighborhood, the immediate project vicinity is defined visually by buildings and transportation system infrastructure. For the purposes of this discussion, the "immediate project vicinity" encompasses buildings on Harrison Street between Beale Street to the east and the Transbay Terminal ramps to the west, as well as the Bay Bridge West Approach immediately to the south of the site. The visual character of the immediate project vicinity is primarily defined by the Bay Bridge West Approach, which acts as a structural and visual barrier to the south, older low- and mid-rise structures, and new high-rise residential development to the north and east. The mid-rise Sailor's Union of the Pacific building, located directly across Harrison Street from the project site, visually anchors the corner of First and Harrison Streets and stands out due to its unique massing and architectural detail. The Sailor's Union building, essentially a concrete block with an enframed window wall entrance, is set back from Harrison Street about 25 feet. The façade is noted for a series of six concave piers, connected by wave panels and banded tubing that frame the tall vertical windows of the entrance. The grey facade walls surrounding this design are blank.[3] To the east of the Sailor's Union building are low-rise, early- to mid-Twentieth Century buildings on both sides of Fremont Street. The building adjacent to the Sailor's Union building is rectangular, with steel framed glass window, painted façade, and minimal decorative features. The three-story building on the northeast corner of Harrison and Fremont Streets, owned by the Archdiocese of San Francisco, is a nearly windowless concrete structure with minimal ornamentation.

The immediate project vicinity also is defined visually by unpainted concrete transportation structures. The project site is situated between Bay Bridge on- and off-ramps, to the west and east, respectively; located at a major eastbound approach to the Bridge, the Harrison Street/First Street/First Street Bridge on-ramp intersection; and abuts the Bay Bridge West Approach, which forms the southern site boundary. To the west of the Sailor's Union building, across First Street on the northwest corner of First and Harrison Streets, is a Union 76 gas station. Surface parking lots on the northeast corner of the project site and across the Harrison Street off-ramp on the south side of Harrison Street also contribute to the automobile-oriented visual character. The existing building on the project site is itself a part of the auto-oriented visual context in that its 183-foot-tall triangular tower with its illuminated digital clocks and corporate signage has been a highly visible and familiar visual landmark directed at thousands of daily commuters, residents, and visitors since the 1940s. The Bay Bridge defines an important visual gateway to the City. While westbound motorists actually enter the City of San Francisco east of Yerba Buena Island, for most people the visual entry into San Francisco occurs where the Bridge crosses over the water onto land. One of the first visual landmarks encountered in this gateway is the tower of the Bank of America building complex (formerly Union 76 building) on the site. Similarly, for eastbound motorists, the sight of the tower is one of the last visual landmarks of the city before entering the lower deck of the Bridge.

A number of high-rise residential buildings constructed within the last few years have increasingly shaped the visual character of the immediate project vicinity. To the east of the project site on Harrison Street and facing the Harrison Street overpass of Beale Street are the 20-story, Avalon Towers, the 26-story Bridgeview Tower, and the 13-story Bay Crest development. All three developments, designed with a balance of glass and solid materials, are visible from the Bay Bridge and the streets in the vicinity, particularly when looking west from the eastern end of Harrison Street. Located on First Street abutting the Sailor's Union building to the north, the recently-completed Metropolitan (333 First Street) is 28- and 21 stories and very visible in the vicinity, particularly when looking south on First Street (see Figure 20 on page 53).

[3] Visual character description of Sailor's Union building is based on the following source: San Francisco Planning Department. *Rincon Hill Area Plan.* July 6, 1995.

IMPACTS

Significance Criteria

Visual quality and urban design are, by their nature, subjective and open to interpretation. In line with the State CEQA Guidelines checklist adapted by San Francisco for an urban environment, the project would have a significant effect on the environment if it would:

- have a substantial, demonstrable negative aesthetic effect;
- substantially degrade or obstruct any scenic view or vista now observed from public areas;
- generate obtrusive light or glare substantially impacting other properties.

Project Impacts

Views of the Project

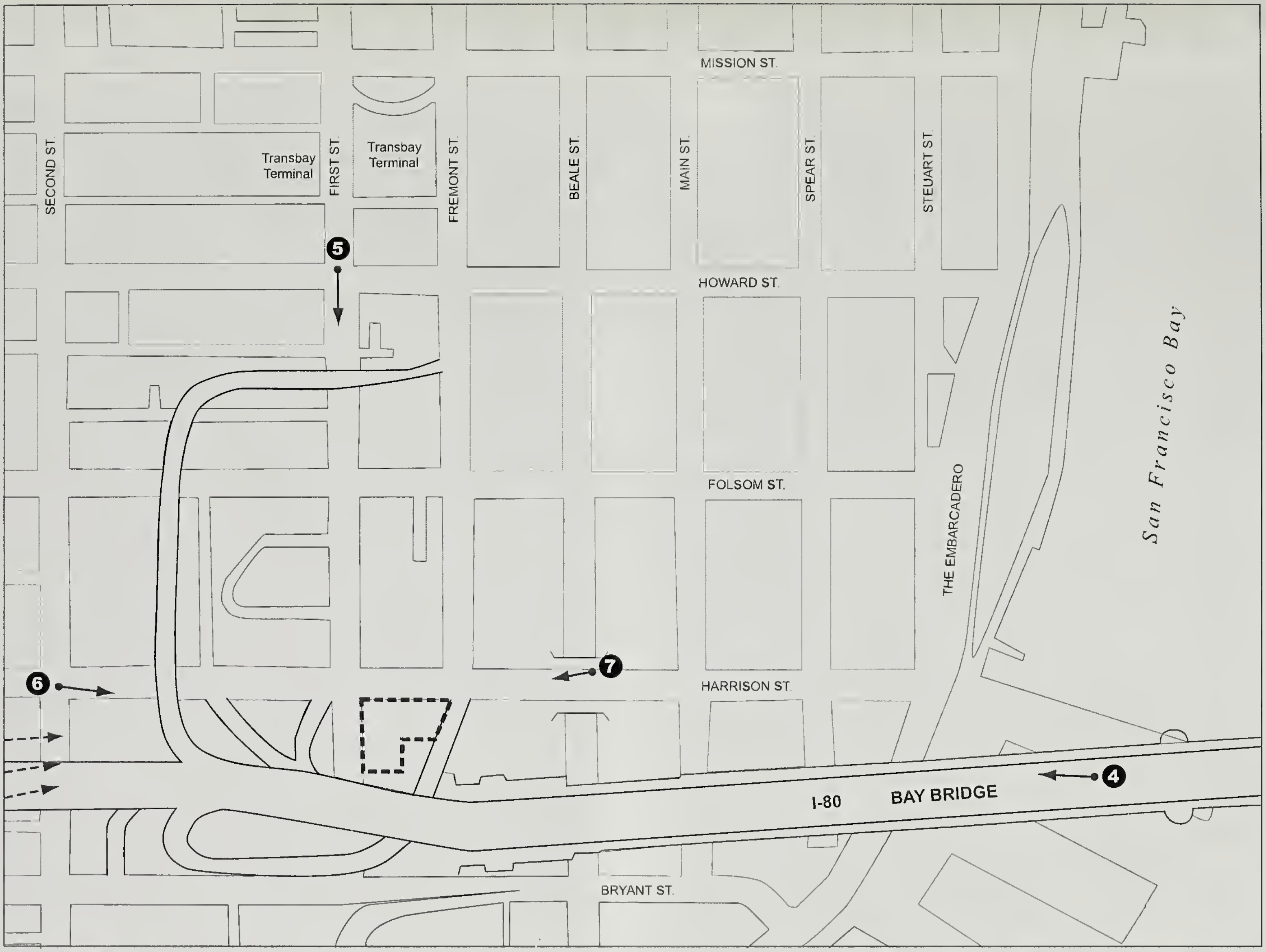
VIEWS

To assess the project's effects on public scenic vistas and views, photosimulations have been prepared to illustrate existing and proposed conditions in the project vicinity and at the project site (see Figure 18, page 51). The simulations were prepared for two short-range views (approximately one block away from the site), looking east and west along Harrison Street; and three mid-range views (at least several blocks away from the site), looking south on First Street from Howard Street, from the Bay Bridge West Approach looking east, and from the Bay Bridge looking west.

Photosimulations were also prepared for two long-range views (more than a mile away from the site), from Dolores Park and from atop Twin Peaks. These two public viewing areas were selected because they are two of the most popular public areas for viewing the City, including the downtown area. The project effect in each of these representative views is presented below.

Views Looking East and West on Harrison Street (Figures 19 and 20)

In the existing view, the clock tower is the most visible feature on the project site from viewpoints along the Harrison Street corridor, due to its unobstructed position at the top of Rincon Hill. Nearby highrises, such as the 26-story Bridgeview Tower and the 20-story Avalon Towers, located along the north side of Harrison Street (actually on Beale Street located approximately 40 feet below Harrison Street) are taller than the clock tower. When viewed from the east along Harrison Street, the parking garage is also visible, although it is less visually prominent due to its shorter height in comparison to the clock tower and the nearby high-rises. Views of the office building on the project site are mostly obstructed by a billboard sign and the Fremont Street off-ramp, when viewed from the east and west, respectively.

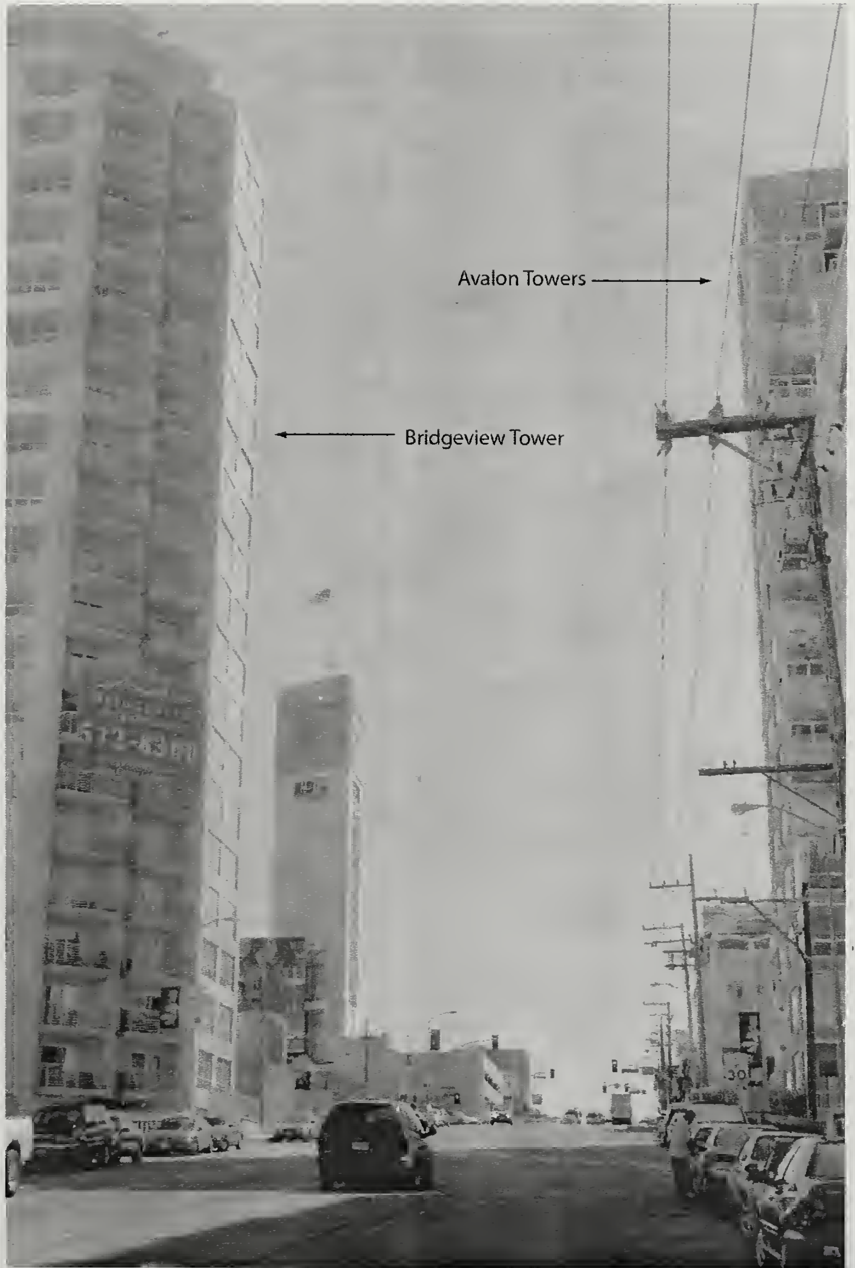


Source: EDAW, Inc.

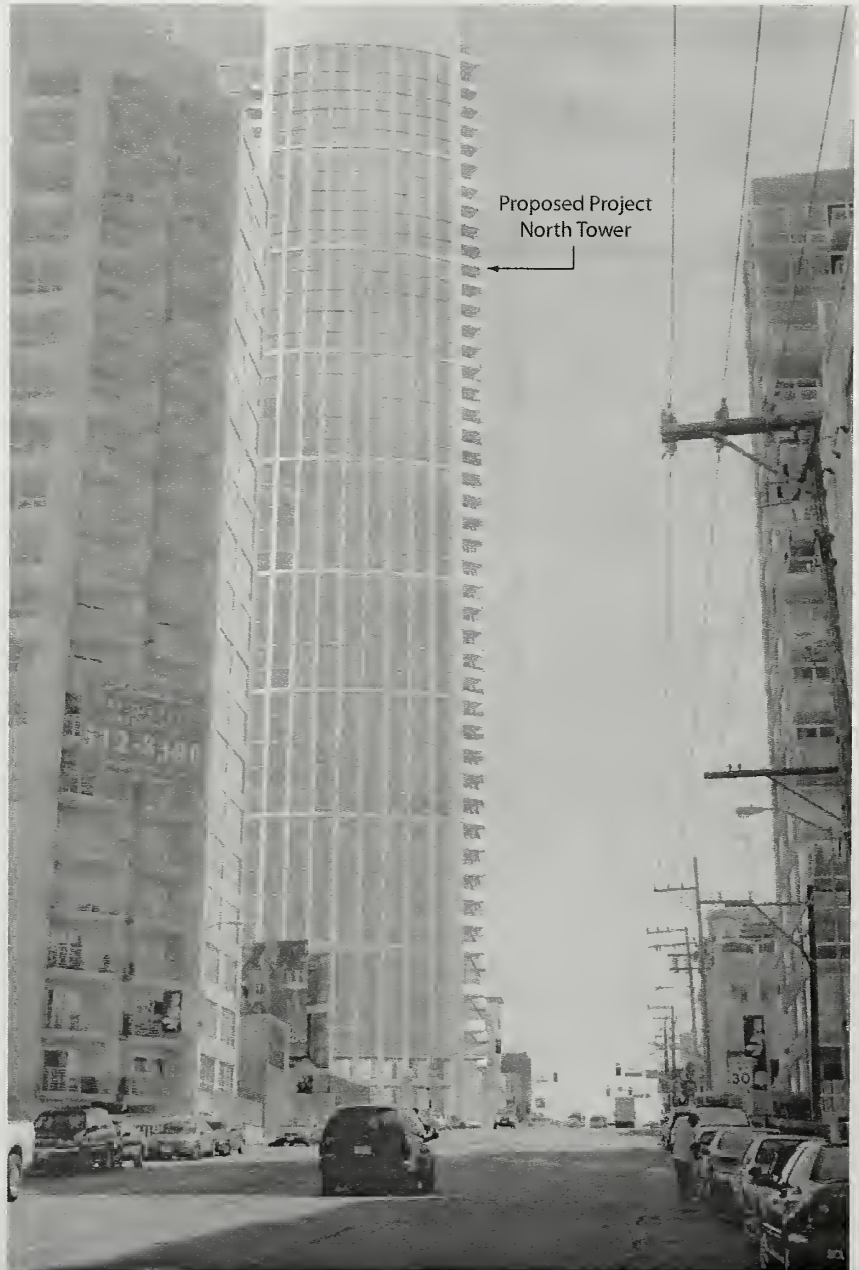
---- Project Site

1. View looking northeast from Twin Peaks (Figure 22)
2. View looking northeast from Dolores Park (Figure 21)
3. View looking northeast from Bay Bridge West Approach (Figure 19)
4. View looking southwest from the Bay Bridge (Figure 18)
5. View looking south from First and Howards Streets (Figure 20)
6. View looking east from Harrison and Second Streets (Figure 17)
7. View looking west on Harrison Street from Beale Street overpass (Figure 16)

Figure 18 Viewpoint Locations



A. Existing View

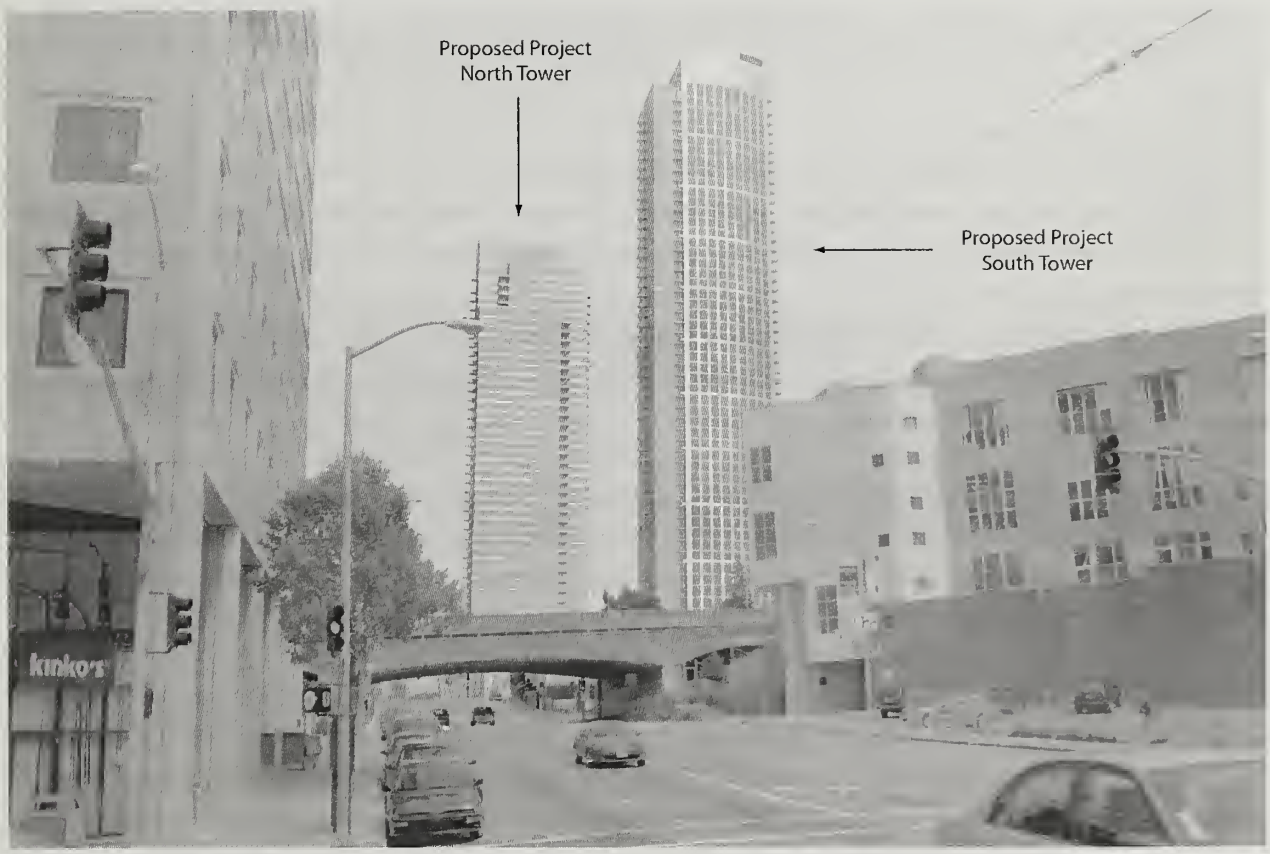


B. View with Project

Source: EDAW, Inc.

Figure 19 - View Looking West on Harrison Street

A. Existing View



B. View with Project

Source: EDAW, Inc.

Figure 20 - View Looking East on Harrison Street

With development of the project, nearly the entire facade of the proposed north tower would be plainly visible when viewed from the east along Harrison Street, and the proposed south tower would be mostly obscured by the Bridgeview Tower in the foreground (see Figure 19, page 52). The townhouses would be almost entirely blocked from view or not visible in this view. The Avalon Towers would also be visible. Although the project's towers would be substantially taller than the Bridgeview Tower and would be situated at a higher point atop Rincon Hill, the perspective of looking westward up the sloping Harrison Street with tall buildings in the foreground would somewhat lessen the apparent difference between the height of the project and the surrounding buildings. The proposed building would be seen amid the variety of building forms and architectural treatments of nearby high-rise buildings, and would add a new prominent form in this view. Compared to the existing view from the east along Harrison Street, the proposed north tower would be more prominent than the existing structures in the view due to its greater height and mass. The proposed development would narrow the line of sight in this view, resulting in a reduced view of the sky. Additionally, loss of part of the sky plane in this view would occur because the north tower and the Bridgeview Tower would align with no space in between, creating an image of a bulky wall.

From the opposite direction, looking east from Harrison Street to the west of the project site, most of the proposed towers would be seen (see Figure 20, page 53). Except for the project's townhouses and lower tower floors, views of which would be obscured by the Bay Bridge off-ramp in the foreground, the full extent of the towers would be visible. From this perspective, the towers' 115-foot separation from one another would contribute to each tower reading separately as a distinct visual mass. In this way, the project would appear different than nearby bulkier towers because of its more slender massing and notable separation of the towers.

The south tower's curved and grid-patterned western façade would rise prominently and, along with the south tower's more glassy western façade, would visually dominate views from this perspective. The light and glassy appearance of the project's north tower would be in distinct contrast to the heavier, stone, and generally earth-tone coloring of the off-ramp and buildings on either side of Harrison Street to the west of the off-ramp. Construction of the project would block visibility of the Bridgeview Tower development currently seen from this view. Compared to existing views from the west along Harrison Street, the proposed towers would be more visually prominent than the existing structures due to their greater height and mass.

Due to the size and location of the proposed development atop Rincon Hill, highly visible changes in the skyline would constrain the line of sight and cause some reduction in sky exposure; the project would not obstruct view corridors along existing streets. The Harrison Street view corridor is identified in the *General Plan* as having "average" quality of view and thus is not a scenic view. It contains no outstanding and unique areas that contribute in an extraordinary degree to San Francisco's visual form and character identified in the *General Plan Urban Design Element* Policy 2.7 [Recognize and protect outstanding and unique areas that contribute in an extraordinary degree to San Francisco's visual form and character]. For these reasons, the change in these representative views would not be considered a significant impact.

Views Looking East from the Bay Bridge West Approach and West from the Bay Bridge (Figures 21 and 22)

The upper deck of the Bay Bridge affords expansive views of the City and the Bay, including the meeting of land and water, and more distant views of the hills, Twin Peaks and Mount Davidson, towards the west. The urban form created by the high-rise buildings in the heart of downtown that gradually slopes down towards the south and the waterfront is fully visible from the Bay Bridge, although not from the more focused view in Figure 21, page 57. When taking in a broader view from the Bay Bridge, the gradual down-sloping profile of the southern periphery of the downtown high-rise urban form is seen along with the undulating ridgeline of the hills that is intermittently visible behind the buildings.

The project would be a substantial, close-up prominent new visual feature in views from the Bay Bridge as motorists approach the City (see Figure 21, page 57). With the development of the proposed towers, expansive views of the City and the Bay would remain, although the project would introduce a prominent visual element. Most or all of the east facades of both proposed towers would be visible (depending on the proximity of viewer to the buildings). From this view, the curved and grid-patterned northern building's façade would be distinct from the southern building's taller, flat, and more glassy appearance. The figure shows the height difference between the project's towers and the substantially shorter Bridgeview Tower building lower on the hill. The contrasting architectural styles, materials, and building forms of the two residential developments would also be clear, with the proposed towers appearing more transparent and slender than their neighbor. Because of their proximity to the Bay Bridge, the project's towers would appear larger to Bay Bridge motorists than large downtown buildings located farther away. The project, particularly the south tower, would partially and intermittently block views of the hills in the background from some perspectives on the Bay Bridge. The ridgeline of the hills would be visible between the two project towers from other vantage points, and views of the downtown core would not be obstructed by the proposed towers. As depicted in Figure 21 on page 57, volume and massing of the proposed development would represent a contrast with the volume and massing of nearby development such as Bridgeview Tower. The slender profile of the project's towers and the separation between the towers would distinguish the project from the bulkier volume and massing of Bridgeview Tower and other similar buildings nearby.

As shown in Figure 22 on page 58, the existing view, as one travels east on the West Approach to the Bay Bridge, includes a number of midrises. The most prominent features in the view are the Clocktower Building located at 461 Second Street in the mid-ground, the Bank of America clocktower on the project site farther away in the mid-ground, and the Bay Bridge's two westernmost towers behind, between the Bank of America clocktower and the Second Street clocktower.

With the development of the project, both of the proposed towers would be prominent in this view and would introduce a larger-scale element in the view compared to the clocktower they would replace, as well as the Clocktower Building in the mid-ground and the Bay Bridge's westernmost tower (see Figure 22, page 58). From mid-distance views on the West Approach from these viewpoints, the separation between the project's two towers would not be distinguishable, resulting in the towers appearing like a single mass of varied height. The northern tower would obstruct views currently available of the Bridgeview Tower development, and would partially obstruct the current open view south of the site's existing Bank of America clock tower, between it and the Bay Bridge, and most or all of the second Bay Bridge tower farther to the east. From both the Bay Bridge and its West Approach, in views west and east, the proposed towers would replace the project site's existing familiar clocktower with a new and more prominent visual feature. As shown in Figure 22 on page 58, this would diminish the existing prominence of the Bay Bridge towers and the Second Street clocktower from this view.

Due to the size and location of the proposed buildings adjacent to the Bay Bridge West Approach, the project would result in a noticeable alteration to the visual experience of motorists traveling into or out of the city on the Bay Bridge. In effect, the project towers would become a new visual feature for entry or departure from the City on the Bay Bridge. The loss of the familiar Bank of America clocktower, formerly the Union 76 clock tower, would contribute to the dramatic visual change.

In addition, the project would alter views from the Bay Bridge and from the West Approach of the Bay Bridge. Partial and complete views of one of the Bay Bridge towers would be obstructed by the project when traveling east, and partial views of the hills to the south of the City would be obstructed by the project when traveling west. These view obstructions would be limited in duration and highly variable depending upon the location and speed of vehicles traveling on I-80. Views of the hills and Bay Bridge towers would be available from other vantage points from I-80; for these reasons, these obstructions do not constitute a significant adverse impact.

In conclusion, the proposed towers would represent a dramatic change in this view. This change is planned for and anticipated in the *Rincon Hill Plan* amendments and associated planning and zoning changes. Therefore, because the impacts would be limited in duration for drivers in motion and would conform to current planning for Rincon Hill, the impact would be less than significant.

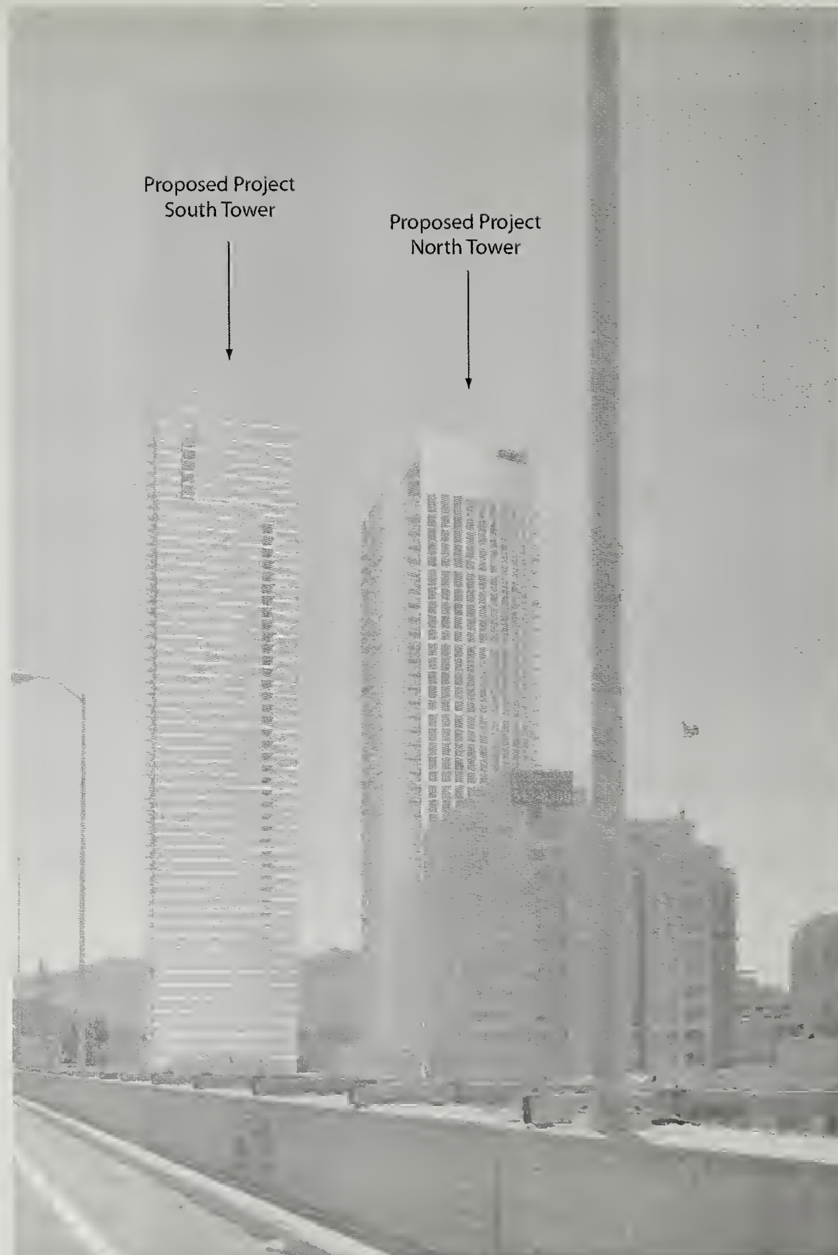
View Looking South on First Street (Figure 23)

In the existing view of the site, when one looks south from Howard Street along First Street, a sliver of the clocktower is visible behind the 28-story Metropolitan located on the east side of First Street (333 First Street) completed in 2004; the visible portion of the clocktower is shorter than the Metropolitan. The existing garage on the project site is partially obstructed by the Fremont Street off-ramp, and the office building is absent from view.

The proposed towers, from this viewpoint, would be much more visible than the existing structures on the site, and would be prominent elements of the skyline (see Figure 23, page 60). The project towers would be seen within the context of the South of Market grid system and of other buildings in the project vicinity, including the Metropolitan, the Phillips Building (246 First Street) and 405 Howard Street at the corner of First Street. From First Street, the project's base portions of towers would not be visible, as they would be screened by the Metropolitan; however, the upper portion of both towers would extend above the Metropolitan and would be visible.

From this viewpoint and other viewpoints looking south to the project site, the project would not obstruct public scenic views or alter existing view corridors. The volume and massing of the project, with its slender

A. Existing View

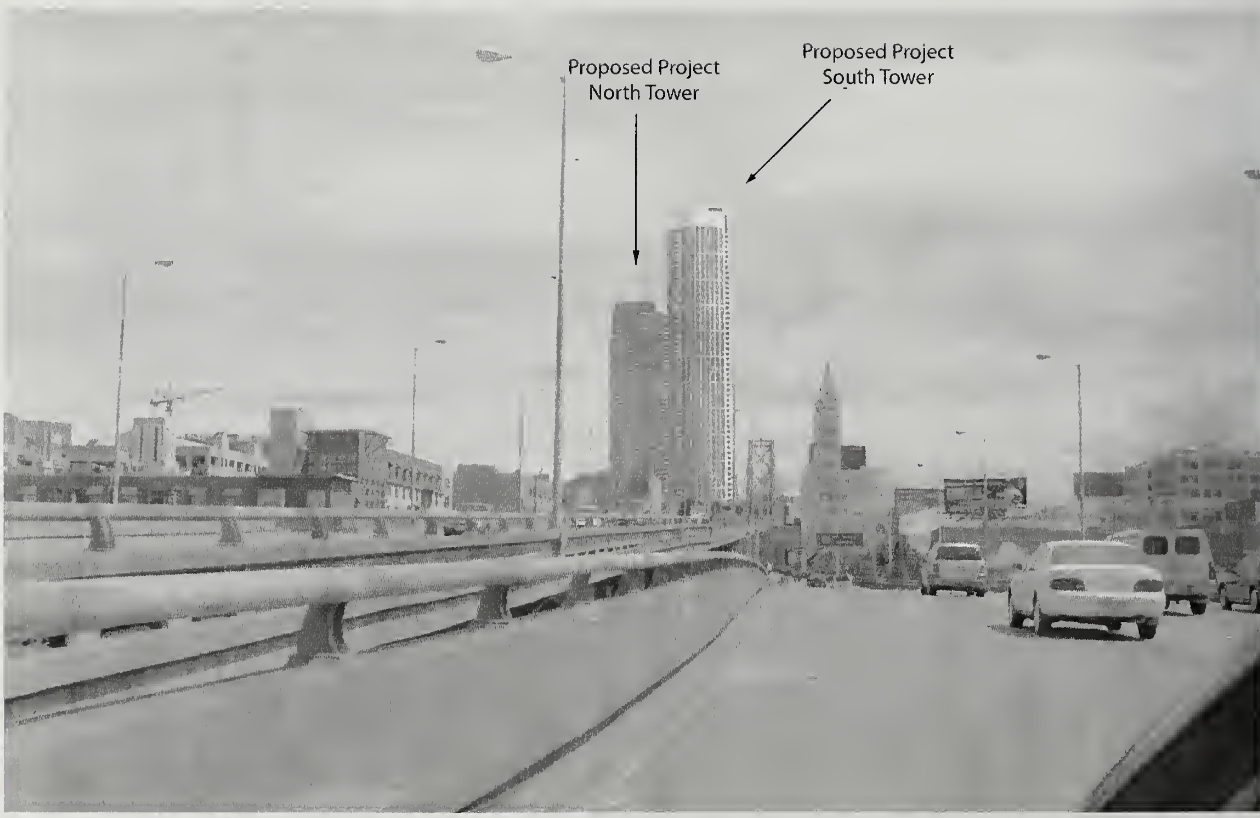


B. View with Project

Source: EDAW, Inc.

Figure 21 - View Looking West from Bay Bridge

A. Existing View



Source: EDAW, Inc.

B. View with Project

Figure 22 - View Looking East from the Bay Bridge West Approach

tall towers and tower separation, would contrast with the buildings along this part of First Street, which are different in mass and volume, although there is some tower separation among these buildings. Because this view corridor is identified in the *General Plan* as having "average" quality of view and thus is not a public scenic view, and because no "outstanding and unique areas that contribute in an extraordinary degree to San Francisco's visual form and character" identified in the *General Plan Urban Design Element* Policy 2.7 are within this view, the project's effect on this representative view is not considered to be a significant impact.

<u>Views from Dolores Park and Twin Peaks (Figure 24 and 25)</u>

Due to the height of the proposed buildings and the location of the project site atop Rincon Hill, the project towers would be visible from distant viewpoints throughout the City, including Dolores Park and Twin Peaks (see Figures 24 and 25, pages 61-62). The existing views from these two locations include the downtown urban form of high-rise buildings in the heart of downtown that gradually slopes down towards the south and the waterfront. From the Dolores Park viewpoint, the eastern periphery of the urban form is seen along with the four towers of the Bay Bridge and the hills in the East Bay. From Twin Peaks, the gradual downsloping profile of the downtown high-rise urban form is seen along with the Bay, and the urban skyline and ridgeline of the hills in East Bay that rise in the background.

Because of the expansiveness of the views afforded from such long-range viewpoints, the proposed towers would not substantively obstruct panoramic views of the Bay or East Bay hills, although they would be notable and readily identifiable, as seen from the two representative viewpoints. From Dolores Park, the project towers would introduce a change in scale relative to the towers of the Bay Bridge, and the two easternmost towers of the Bay Bridge would remain visible, while the two western-most towers would be obstructed in certain views. From the Twin Peaks vantage point, all four of the Bay Bridge towers would remain visible to the left of the project towers. For these reasons, the project's impact on long-range views would not result in a significant adverse impact.

URBAN DESIGN

The project would replace the existing office building complex (including the office building, clock tower, and parking structure) and surface parking with a development that would have three main structural, functional, and visual elements: a 450-foot-tall northern tower, a 550-foot-tall southern tower, and approximately 45-foot-tall townhouses fronting both Harrison and First Streets between the towers. The project would be contemporary in style and would have a substantially greater proportion of glass to solid materials than most of the buildings in the immediate vicinity.

The massing of the towers would appear tall and slender as they extend above the podium, since the towers would be three-and-a-half to more than four times taller than they would be wide at their widest point. The proposed tower shape would be uniform in plan for most of the height of its shaft. The top six stories of both towers would have setbacks. The body of the towers would have a green-tinted glass and painted aluminum curtain wall facade, with no exposed concrete.

A. Existing View

B. View with Project

Source: EDAW, Inc.

Figure 23 - View Looking South on First Street

A. Existing View

B. View with Project

Source: EDAW, Inc.

Figure 24 - View Looking Northeast from Dolores Park

A. Existing View

B. View with Project

Source: EDAW, Inc.

Figure 25 - View Looking Northeast from Twin Peaks

The east façade of the north tower and the west façade of the south tower would curve outward and would be articulated with a grid with heavy vertical lines for each window and horizontal lines demarcating every sixth floor, intended to further emphasize the building's verticality. At the top of the curved façade of each tower would be an internally illuminated mechanical penthouse. The non-curving facades would not be articulated with a grid; they would be horizontally articulated by each floor plate and would display a greater proportion of glass than the curved façades. Balconies projecting from each floor would be glass enclosed and therefore would contribute to the overall "glassy" appearance of the towers. Two- to three-story-tall concrete columns enclosing an arcade would mark where the towers would meet the ground.

The proposed towers would be compatible with the high-rise residential buildings constructed within the last few years, as well as those approved and being formally considered in the proposed *Rincon Hill Plan* amendment; however, as noted, they would have a more slender, glassy appearance than most of the other buildings. Some of buildings recently constructed, such as the Metropolitan (333 First Street), also have facades with higher proportions of glass to non-glass materials than the older buildings in the vicinity.

The project would produce a visual change at street level that would be highly apparent to viewers. At street level, the project would be defined primarily by the project's 14 two- and three-story townhouses, as well as the glass façade, columns and arcades at the base of the two towers. The townhouses along Harrison Street would appear as a group of six adjoining structures, each with two rows of large square windows and individual stoops and direct entries from the sidewalk. Townhouses also would be located along the northern end of the First Street frontage. Besides their lower height, the townhouses would visually contrast with the towers: they would have a less slender form than the towers and would be less glassy because their façades would have a lower proportion of glass to solid materials. Features such as widened sidewalks on Harrison Street, planted trees along both First and Harrison Streets, as required by the *Planning Code*, and a landscaped open space on the western side of the First Street stub, are intended to visually soften the appearance of the buildings at street level and provide human-scale visual interest. Provision of these pedestrian-scale features, in combination with the project's development of the existing surface parking lot, and construction of a structure with a clearly-delineated, articulated base, would result in a visual environment that offers a more pedestrian scale at the street level than the more auto-oriented parking garage, parking lot, and clock tower that at present exist on the site.

The project would demolish a structure that is a familiar visual landmark in the City, and, a "visually important building" as noted in the *Rincon Hill Draft EIR*. The project would replace the Bank of America building complex and clock tower, a relatively low-rise development, with the two proposed high-rise towers and mid-rise townhouses. This would result in a notable visual change to the site, including an increase in scale. The proposed towers would be two of the most visually noticeable buildings in the *Rincon Hill Plan* area, due to their heights and their position on top of Rincon Hill. The project would generally conform to the City's current and proposed *Rincon Hill Plan*, as they call for accentuation of the natural topography of the Hill. The project would also conform to the proposed *Rincon Hill Plan* amendment, which calls for towers with heights of 450 and 550 feet on the project site, as well as articulation for a base, a mid-section, and a top. In addition, the project would be compatible with the height of development and the increased density envisioned by the proposed *Rincon Hill Plan* amendment, as well as residential buildings recently constructed in the area, which range from approximately 200 to 250 feet. Furthermore, recent rezoning and project approvals have permitted increased heights of up to 400 feet at select locations in the *Rincon Hill Plan* area.

The proposed towers would stand out visually because they would be much taller than any of the existing buildings nearby. The nearest existing structures with comparable heights are located in downtown and areas of SOMA closer to Market Street.[4] Until similarly tall buildings are constructed in Rincon Hill, as would be permitted by both the existing *Rincon Hill Area Plan* and the proposed *Rincon Hill Plan* and *Downtown Residential District*, as well as the *Transbay Redevelopment Plan*, the proposed towers would stand out in the visual context with the existing surrounding land uses due to their exceptional height as compared to existing mid-rises. After other approved and proposed high-rises are constructed, the project towers would remain prominent but within the context of the planned new Rincon Hill urban form. The project would be compatible with the changing visual character of the *Rincon Hill Plan* area. The heights of the two towers are consistent with the *Rincon Hill Plan* amendment proposal, and would replace the visually important building complex that currently exists on the project site with two towers that would also be visually distinctive.

Although the project would stand out amongst neighboring existing and proposed developments, it would conform to current and proposed urban design objectives and policies of the *General Plan* for the project site. The project therefore would not have a substantial, demonstrable negative aesthetic effect.

Cumulative Impact on Visual Quality

The City's proposed *Rincon Hill Plan* amendment envisions a continuation and refinement of the current *Rincon Hill Plan* and zoning, including increased height limits, that would facilitate the redevelopment of the Rincon Hill area into a mixed-use residential neighborhood. A number of applications for large, high-rise residential projects have been submitted to the Planning Department within the past year or so. In addition to the project, the Planning Department is currently reviewing applications for five primarily residential development projects, three of which would include buildings of 200 feet or more in height. These development proposals include 333 Fremont Street (85 feet), 350 Fremont Street (400 feet), and 45 Lansing (400 feet). Projects at 375 Fremont Street (300 feet) and 399 Fremont Street (250 feet) have also been proposed. These proposals are in addition to the approved projects at 201 Folsom Street and 300 Spear Street that have not yet been built. In addition, high-rise construction is planned or approved in the Transbay area to the north of Rincon Hill. Height limits in the *Transbay Redevelopment Plan* Area would be increased to 400 to 550 feet along the north side of Folsom Street bordering on the *Rincon Hill Plan* Area.[5] Thus a substantial change in the visual form and character of Rincon Hill is being proposed by the Planning Department, and is reflected in the number of new applications for residential towers. Implementation of the *Rincon Hill Plan* amendment would make a substantial change in urban form in the vicinity. At 450 and 550

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4 The five tallest buildings in San Francisco are: the Transamerica Pyramid at 600 Montgomery Street (853 feet); the Bank of America Building at 555 California (779 feet); California Center at 345 California (695 feet); 50 Fremont (600 feet); and 101 California (600 feet). The 301 Mission Building, which would be located at Mission and Beale Streets, has been approved for 605 feet. With construction of the already approved 300 Spear Street and 201 Folsom Street projects and the potential construction of numerous other proposed projects currently in the pipeline, the distinctiveness of the project would be diminished.

5 U.S. Department of Transportation Federal Transit Administration, the City And County of San Francisco, Peninsula Corridor Joint Powers Board, and San Francisco Redevelopment Agency. *San Francisco Transbay Terminal/Caltrain Downtown Extension/Redevelopment Project Draft EIS/EIR*. October 2002.

feet tall, the heights specified for the project site in the proposed *Rincon Hill Plan* amendment, the project towers would be the tallest buildings to be built on Rincon Hill, and would appear taller due to the site's elevation. [6] The project towers would thus be prominent when built, and would continue to be prominent with further build-out of the area, as envisioned in the *Rincon Hill Plan* amendment.

As Rincon Hill develops with other high-rise residential projects consistent with the proposed Downtown Residential District, should the *Rincon Hill Plan* amendments be adopted, and as the *Transbay Redevelopment Plan* area is developed, the project would be somewhat softened in its context because more buildings of a similar height and proportion would be in proximity, stepping up with height on the hill. Development of numerous high-rise buildings in this area would, however, result in view obstructions of the Bay when looking east from the western side of Rincon Hill, and of the hills when looking west from the Bay Bridge and the Bay. With construction of the already approved 300 Spear Street and 201 Folsom Street projects (each of which would include one 350-foot and one 400-foot tower) and the approved 605-foot 301 Mission Street project, located three blocks north of the project site, as well as the potential construction of numerous other projects currently in the review process, the visual distinctiveness and prominence of the project would be somewhat diminished. When the high-rise buildings in Rincon Hill and Transbay area are constructed, the proposed towers would appear in the visual context of the surrounding high-rise buildings. According to the Draft EIR for the *Rincon Hill Plan*, the cumulative effect of development of multiple high-rise buildings in the area would be less than significant because cumulative development would be consistent with principles in the *General Plan* Urban Design Element. The proposed project would be consistent with the draft *Rincon Hill Plan* and Downtown Residential District, and, as such, the project's contribution to the cumulative visual impacts of the development of Rincon Hill would be less than significant.[7]

Views and Visual Character Conclusion

As stated in the beginning of this section, a proposed project would be considered to have a significant adverse effect on visual quality, if in general, it would cause a substantial and demonstrable negative change.

The project would change the visual environment on the project site and the top of Rincon Hill, and affect other City views as described above. The project would demolish the existing Streamline Moderne/International Style office building, clock tower, and parking structure, dating from the 1940s and 1950s (see Historic Architectural Resources section); this building complex has become a familiar visual feature and a point of orientation. The project would form a new visual landmark at this location. In place of the Bank of America building complex, the project would consist of a much larger complex with two large glassy towers of 450 and 550 feet in height, as well as townhouses of approximately 45 feet along Harrison and First Streets. The project would dramatically increase the scale of development at the project site. The proposed development would be different in architectural style, materials, and visual appearance from the existing structures on the site.

6 San Francisco Planning Department. *Rincon Hill Plan Draft Environmental Impact Report.* September 25, 2004.

7 If cumulative development were not to proceed as planned, project impacts would fall under the project-specific impact discussed above.

The project site, located atop Rincon Hill, is bound on three sides by transportation infrastructure associated with the Bay Bridge. The Bay Bridge West Approach, abutting the site to the south, acts as a physical and visual barrier for the neighborhood. The project's towers, along with other recent and approved developments in the vicinity, would continue the extension of high-rise development historically, primarily located north of Market Street but increasingly having extended southward in recent years. San Francisco's Downtown and SOMA skylines are composed of a range of building heights. Peaks, dips, and gaps in the general pattern create a varied and recognizable City skyline. The project's 450- and 550-feet-tall towers would be taller than the other high-rise buildings in the near project vicinity.

The towers would be within the general height range of other buildings closer to Market Street (like 301 Mission Street at 605 feet, 45 Fremont Street at 475 feet, and 50 Fremont Street at 600 feet) and other approved buildings closer to the project site (such as 201 Folsom Street at 400 feet and 300 Spear Street at 400 feet). The project would be sited prominently at the top of Rincon Hill, consistent with the *General Plan*'s policies that call for development "To respect the natural topography of the hill and follow the policies already established on the urban design element which restrict height near the water and allowed increased height on the top of hills" (existing RHP Objective 9). The project height would accentuate the highest portion of Rincon Hill.

The *General Plan* also has policies that call for slender and widely spaced towers. *General Plan Urban Design Element* Policy 3.2 states the following: "Avoid extreme contrasts in color, shape and other characteristics which will cause new buildings to stand out in excess of their public importance." This policy calls for buildings to not stand out in excess of their public importance. The project's two towers would comply with the objectives, calling for slender and spaced towers of varying heights. The project would be one-half mile away from the closest Bay Bridge tower. The project's relatively tall, slender towers at the top of Rincon Hill adjacent to the Bay Bridge West Approach could be seen by some as introducing an apparent disproportionate visual scale and prominence relative to the private residential use in the project area at present. However, the existing *Rincon Hill Area Plan* and zoning, as well as the proposed *Rincon Hill Plan* amendments/DTR district, call for tall, slender towers at this location and 115-foot tower separation to preserve views of downtown from the Bay Bridge. The project would be consistent with these objectives and policy.

High-rise buildings in the greater downtown and vicinity are varied in form. Nearby high-rise buildings vary in exterior surface treatment; however, they are generally non-reflective, transparent to some degree, light in tone and generally vertical in expression. Some lower, bulkier buildings in the project vicinity vary with respect to their relationship to the street. However, a street wall is generally maintained. The project would be consistent with these general patterns, incorporating design features intended to express the topography of the neighborhood, creating continuity with its surroundings, and including a sense of human scale at street level. The project would contrast with the visual character to the north and west in the immediate project vicinity, where lower buildings, the Sailor's Union building, and a gas station are situated. To the east, the immediate vicinity is punctuated with a number of tall residential towers that are shorter and more bulky than the project's proposed towers and are not generally separated. Until similarly tall buildings are constructed in Rincon Hill, as would be permitted by both the existing *Rincon Hill Area Plan* and the proposed *Rincon Hill*

Plan and *Downtown Residential District*, as well as the *Transbay Redevelopment Plan*, the proposed towers would contrast with the existing surrounding structures due to their exceptional height as compared to existing midrises. As additional high-rise buildings are constructed on Rincon Hill and in the Transbay area, the project towers would remain prominent, but within the surrounding context of the new urban form of Rincon Hill.[8]

With regard to the project's effect on scenic views, construction of the project would intensify both height and density on the project site, and the project would be prominent in the skyline. The existing *Rincon Hill Area Plan* Objective 11 states the following: "To maintain view corridors through the area by means of height and bulk controls which insure carefully spaced slender towers rather than bulky massive buildings." *Rincon Hill Area Plan* Objective 10 calls for the following: "To preserve views of the Bay and the Bay Bridge which are among the most impressive in the region." Obstruction of the Bridge towers in long-range views would occur within a limited visual field in a given panoramic view, and the towers may be seen as the viewer changes position. Furthermore, the affected views would be available from slightly different public vantage points. For these reasons, the project would not have substantial adverse long-range visual effects, and thus, the impact would be less than significant.

Short-range and mid-range views would be preserved along streets within the vicinity; view corridors along existing streets in the vicinity would remain largely unobstructed (sky exposure would be maintained), although the project towers would be visually prominent. Thus, the project's impact on short-range and mid-range views would be less than significant.

With regard to cumulative visual impact, the project vicinity is not characterized by an established, cohesive, distinctive, or fragile visual character that would be degraded by the project. The project would demolish an existing building complex that is recognizable to many San Franciscans and Bay Bridge commuters and visitors.[9] The clocktower is a visual landmark and a point of orientation in the visual environment of San Francisco for residents, commuters, and visitors to the City. This automobile-oriented complex would be replaced by a primarily residential complex. The existing complex was prominent during the 1940s, 1950s, and 1960s. The project, with its two high-rise towers, would be a more prominent form in the 21st Century.

As noted, visual quality and aesthetics of urban design are by definition subjective, open to interpretation by decision makers and members of the public. Several urban design approaches for Rincon Hill are presently under consideration. The environmental review process is proceeding (*Rincon Hill Plan EIR*, Case No. 2000.1081E), and these approaches will be considered by decision makers during the approval process for the *Rincon Hill Plan* amendments. The San Francisco Planning Commission must consider how, on balance, the project responds to the goals and policies of the *General Plan*. Urban design is also, by nature, subjective. A proposed project would therefore be considered to have a significant effect on visual quality, in general, only if it would cause a substantial and demonstrable negative change. The project would not cause such a change. The existing *Rincon Hill Area Plan* calls for carefully spaced slender towers, and proposed amendments to the

[9] The project would not conform to the current 200-R and 84-X Height and Bulk Designations for the site in the Planning Code and would require a zoning reclassification, if the Rincon Hill Plan Amendments and rezoning are not adopted; zoning reclassification would include at least two public hearings.

Plan call for rezoning to allow for increased height and density; the project would be consistent within principles of the current *Rincon Hill Area Plan* and with specific recommendations for the site in the proposed plan amendments. For the reason, the cumulative impact is considered to be less than significant.

Light and Glare

The construction of the project, particularly its two tall towers that would be located near or adjacent to the Bay Bridge West Approach, would have the potential to result in glare that could affect motorists on I-80. I-80 is maintained by and is under the jurisdiction of Caltrans. Caltrans does not have specific standards or Best Management Practices with regard to this particular issue.[10] The project would comply with Planning Commission Resolution 9212, which prohibits the use of mirrored or reflective glass. Therefore, the project would comply with applicable regulations pertaining to glare. According to the project architect, the buildings would be designed with low reflectivity coated "vision" glass (glass that is appropriate for looking through in a residence). The project would also result in additional light at the project site, including nighttime illumination and outdoor lighting typical of high-rise residential building in the City. These elements would be selected to minimize glare. In view of the above, the project would not have the potential to cause significant light or glare.

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[10] Telephone conversation between Joshua Hohn, Planner, EDAW and Dave Stow, Senior Architect, Caltrans, June 28, 2004.

C. SHADOW

Planning Code Section 295, adopted in 1984 pursuant to voter approval of Proposition K, generally prohibits the issuance of building permits for structures over 40 feet in height that would cause significant new shade on property under the jurisdiction of, or designated to be acquired by, the Recreation and Park Commission, unless the Planning Commission, in consultation with the General Manager of the Recreation and Park Department, determines that the shade would not have a significant impact on the use of such property.

The Initial Study determined that the project could potentially have a significant shadow effect under *Planning Code* Section 295 and that, therefore, this topic would be discussed in the EIR (see Appendix A, p. 25).

This section summarizes the project's shadow effects in relation to Section 295, as well as project effects in relation to publicly owned or controlled open space areas ("public open space") that are not subject to *Planning Code* Section 295; publicly accessible open space areas on privately owned land ("publicly accessible open space"); and sidewalks.

EXISTING CONDITIONS

The site is located at the top of Rincon Hill. Open space in the vicinity of the project site consists of public open space and publicly accessible open space (see Figure 26, page 73), for the location of open spaces near the development site). There are no public parks subject to *Planning Code* Section 295 in the Rincon Hill neighborhood. The nearest open space subject to Section 295 is South Park, which is located between Bryant and Brannan Streets and between Second and Third Streets and is more than one-quarter mile from the project site. The next nearest Section 295 open space, Justin Herman Plaza, is located more than half of a mile away at the foot of Market Street.

There are several parks/open space areas that are not subject to Section 295 and are located closer to the project site than the preceding open space areas. Rincon Park (a three-acre park located about four blocks to the east, between Harrison and Howard Streets and The Embarcadero roadway and the Herb Caen pedestrian promenade) and South Beach Park (located about four blocks to the southwest on The Embarcadero just east of Second Street) are under the jurisdiction of the Port of San Francisco and the San Francisco Redevelopment Agency and therefore are not subject to *Planning Code* Section 295. The publicly accessible open space at the Gap, Inc. Headquarters building, located at 2 Folsom Street, about four blocks to the northeast of the project site, is a landscaped plaza. The Hills Plaza complex, a publicly accessible public space, located about three blocks to the northeast of the project site, consists of a raised, arcaded, landscaped plaza running throughout the block. The existing site development casts shadow on the nearby streets and sidewalks, but does not shade any of the above-mentioned open spaces.

IMPACTS

Significance Criteria

Planning Code Section 295 generally prohibits new buildings that would cause significant new shadow on open space that is under the jurisdiction of or designated for acquisition by the San Francisco Recreation and Park Commission between one hour after sunrise and one hour before sunset, at any time of the year, unless that shadow would not result in a significant adverse effect on the use of the open space. A project would have a significant effect if it would result in new shadow on public open space under the jurisdiction of the Recreation and Park Commission during these hours, This section also describes the project's shadow effects on nearby publicly owned or controlled open space areas ("public open space") that are not subject to *Planning Code* Section 295; on publicly accessible open space areas associated with development on privately-owned land ("publicly accessible open space"); and on sidewalks. Shadow effects could also be determined to be significant if they would significantly detract from the usability of other existing public open space created in response to specific policy directives, or would alter wind, moisture or temperature (including sun shading effects) so as to substantially affect public areas, or change the climate either in the community or region.

Project Shadow on Open Space

The proposed project would not create net new shadow on any existing public open spaces (e.g., South Park, Rincon Park, South Beach Park, and Justin Herman Plaza) subject to *Planning Code* Section 295. Net new shadow due to the project would not fall on South Park, the nearest existing Section 295 open space to the project site nor on Justin Herman Plaza. The proposed *Rincon Hill Plan* includes a plan to develop a park on an existing Caltrans lot at the southeast corner of Harrison and Fremont Streets, across from the proposed project site. This park plan is at an early concept level of planning and Caltrans has stated that Caltrans does not consider this lot to be "excess land and [this lot] may never be sold. There are no negotiations ongoing between [Caltrans] and the City of San Francisco over this property [as of July 2004]."[1] While the project would result in net new shadow on this property during certain times of the day and year, at this time, the park has not been approved or funded; thus, its status is unknown and analysis would be speculative.

The proposed project would not create net new shadow on other public open spaces not subject to Section 295, including Rincon Park and South Beach Park, nor on any nearby publicly accessible private open spaces, including those at the GAP Inc. building located between Spear and The Embarcadero south of Howard Street and Hills Plaza located between Spear Street and The Embarcadero south of Folsom Street.

Project-specific and Cumulative (Four Project) Shadow at Selected Times of the Day and Year

The following analysis discusses shadow cast by existing buildings and the proposed project on public open space, publicly accessible open space, and sidewalks in the area of potential impact. Shadow patterns for the proposed project are shown for representative times of the day for the four seasons: the winter solstice, when the sun is at its lowest zenith (high point in the sky above the horizon); the summer solstice, when the sun is

[1] Timothy C. Sable. District Branch Chief, IGR/CEQA. Letter to Carol Roos, San Francisco Planning Department. July 7, 2004.

at its highest; and during the spring and fall equinoxes, when the sun is at its midpoint. The times selected for analysis include 10:00 a.m., 12:00 p.m., and 3:00 p.m.[2], because these times roughly account for morning and afternoon break periods and the lunch hour, when many people would be using these open spaces. Sunlight conditions from June 21 through December 21 are mirrored from December 21 through June 21, allowing for adjustment to Daylight Savings Time. Figures 26 through 37 (pages 73 through 87) depict shadow impacts at a "snap shot" moment in the range throughout the year. The figures depict side-by-side, Existing-plus-Project conditions (the proposed project added to existing conditions), and Cumulative (Four Projects) conditions (the project and three other Rincon Hill "pipeline" projects added to existing conditions). The Cumulative (Four Projects) scenario for shadow analysis depicts the 325 Fremont, 375 Fremont, and 399 Fremont Street proposed residential development projects, one of which is approved but not yet built (325 Fremont), and the other two that were under environmental review by the Planning Department when the shadow study was conducted. These are the projects located near enough to the project site to potentially cast shadows in and near the same areas on which the proposed towers may cast their shadows. It is noted that neither the 399 Fremont nor 375 Fremont project would be consistent with the proposed *Rincon Hill Plan*, but could be considered under existing zoning controls. Cumulative shadow effects of the development that would be consistent with the proposed plan are in the *Rincon Hill Plan Draft EIR*.[3]

On the following pages, the shadows created by existing structures are shown in light grey. The maximum extent of the proposed development's shadow, shown as though there were no existing intervening buildings, is outlined by a heavy black line. Within this outline, the areas that would not otherwise be shadowed but for the proposed project ("net new shadow") are depicted in diagonal cross-hatching. For Cumulative conditions, a heavy black line outlines the maximum extent of shadow that would be cast by the other three development projects, and the extent of cumulative shadow is depicted within the outline in black. Open spaces are labeled with numbers as identified in the legends to the figures.

December 21

At 10:00 a.m. on December 21, the two proposed project towers would create shadow that would reach from the site nearly to the Transbay Terminal (see Figure 26, page 73). Most of this shadow would be cast by the northern tower. This shadow would create net new shadow on about 100 linear feet of the sidewalks of the block frontage of the project site on Harrison Street, and 100 feet of the north sidewalk on Harrison Street; approximately 450 feet on each side of Fremont Street between Harrison and Folsom Streets and 450 feet on Fremont Street between the Transbay Terminal and the Transbay Terminal bus ramp, and about 40 feet on each side of Folsom Street at and just east of its intersection with Fremont Street. Most of the project's net new shadow would be cast by the 450-feet-tall northern tower. Under cumulative conditions, additional net new shadow would be created by the 399 Fremont project on an approximate 175 -foot portion of the sidewalk on the west side of Beale Street south of Howard Street. Net new shadow would also be created on about 50 feet of sidewalk on each side of Folsom Street between Fremont and Beale Streets by the 399 Fremont Street and either 325 Fremont or 375 Fremont proposed residential developments, but not by the

[2] Pacific Standard Time (PST) in Mach and December, and Pacific daylight Time (PDT) in June and September.
[3] San Francisco Planning Department. *Rincon Hill Plan Draft Environmental Impact Report.* September 25, 2004.

proposed development. About 50 percent more sidewalk areas on Folsom Street would be covered by new shadow cast by these three projects and the proposed project together than would the proposed project by itself.

At noon in December, the project would create a total of about 650 feet of new shadow that would extend to the sidewalks in all four directions around the intersection of Fremont and Harrison Streets, a total of about 230 feet on both sides of Beale Street just south of Folsom Street and a total of about 50 feet on both sides of Folsom Street just east of Beale Street (see Figure 27, page 74). Under cumulative conditions, additional net new shadow would be created by 325 Fremont and 375 Fremont proposed residential developments on about 50 feet of the north and 20 feet of the south sides of Folsom Street just east of Beale Street and between Beale and Fremont Streets, as well as about 100 feet of the west and about 75 feet of the south sides of Beale Street just north of Folsom Street. About 40 percent more sidewalk areas on Folsom Street would be covered by new shadow cast by these two projects and the proposed project together than would be by the proposed project by itself.

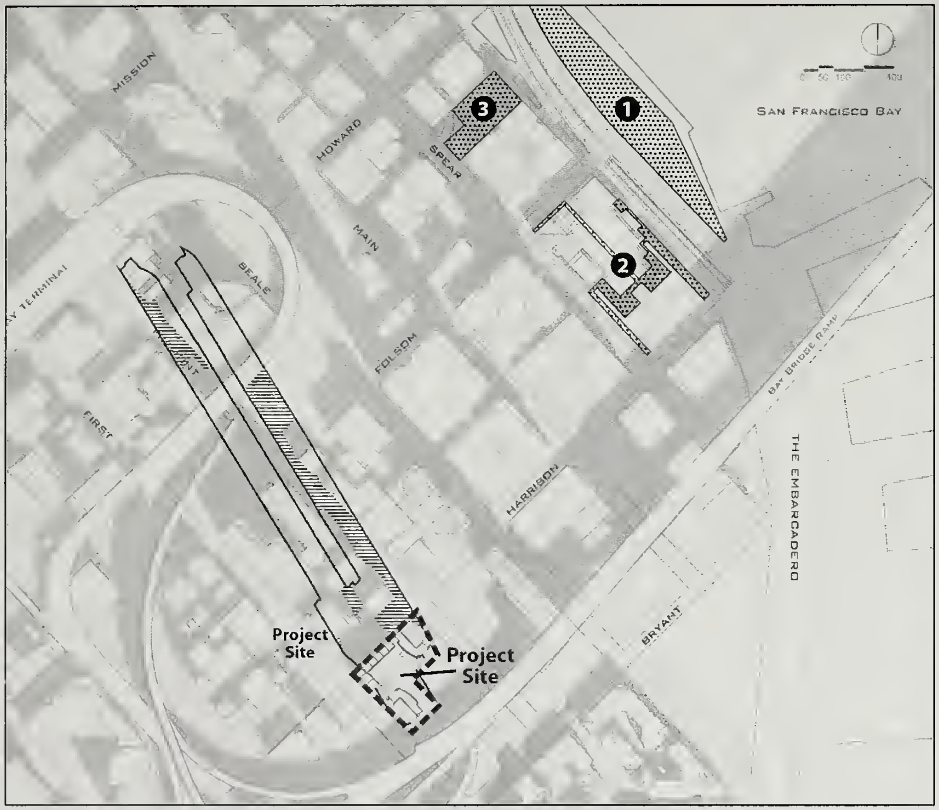
At 3:00 p.m. in December, the project shadow would extend east along Harrison Street to the Bay and would newly shade about 900 feet on the sidewalks on the south side of Harrison Street from Fremont Street to Main Street and about 800 feet on the north side of Harrison Street from Main Street to the Bay south of the southern tip of Rincon Park (see Figure 28, page 75). The project would also result in about 75 feet of net new shadow on the sidewalks on both sides of The Embarcadero at Harrison Street and on nearly half of the vacant lot across from the project site on the southeast corner of the Harrison and Fremont Streets intersection identified in the Draft *Rincon Hill Plan* as a potential park location. Under cumulative conditions there would be no additional net new shadow.

<u>March 21</u>

At 10:00 a.m. on March 21, the proposed project would create about 200 feet of new shadow on the north and 150 feet of new shadow on the south sidewalk of the block of Harrison Street on which the project site sits as well as about 700 feet of the east sidewalk on First Street between Harrison and Folsom Streets (see Figure 29, page 77). Under cumulative conditions, approximately 675 feet of new shadow would be created on the east sidewalk of Fremont Street from just north of Harrison Street nearly to the southern Transbay Terminal bus ramp. About 100 feet of new shadow would be created on the northern and about 40 feet on the southern sidewalks of Folsom street just east of Fremont Street.

At noon in March, the project would create a total of about 645 feet of new shadow that would extend to the sidewalks in all four directions around the intersection of Fremont and Harrison Streets, particularly to the west along Harrison Street and north and south on Fremont Street (see Figure 30, page 78). Under cumulative conditions, additional net new shadow would be created on a total of about 75 feet of the sidewalk on both sides of Folsom Street mid-block between Fremont and Beale Streets.

At 3:00 p.m. in March, the project would create new shadow on most of the vacant lot across from the project site on the southeast corner of the Harrison and Fremont Streets intersection identified in the Draft



Existing + Project Shadow

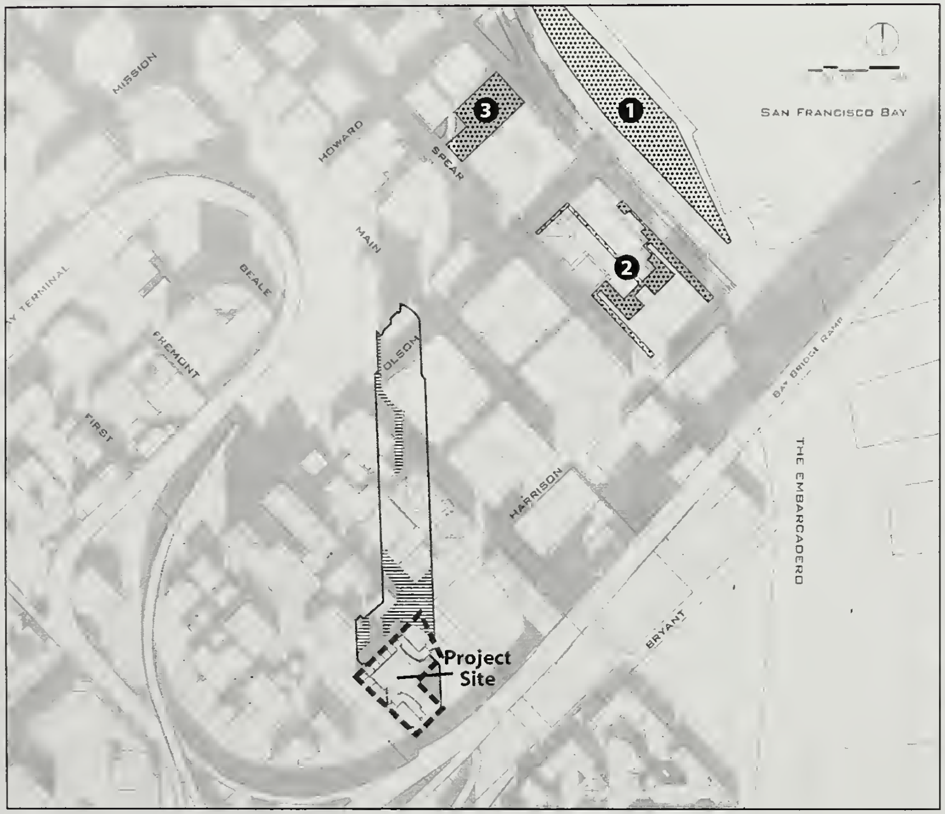
Cumulative (Four Projects) Shadow

- Existing Shadow
- Project Net New Shadow
- Cumulative Net New Shadow
- Section 295 Public Open Space
- Boundary of Project Shadow
- Project Site

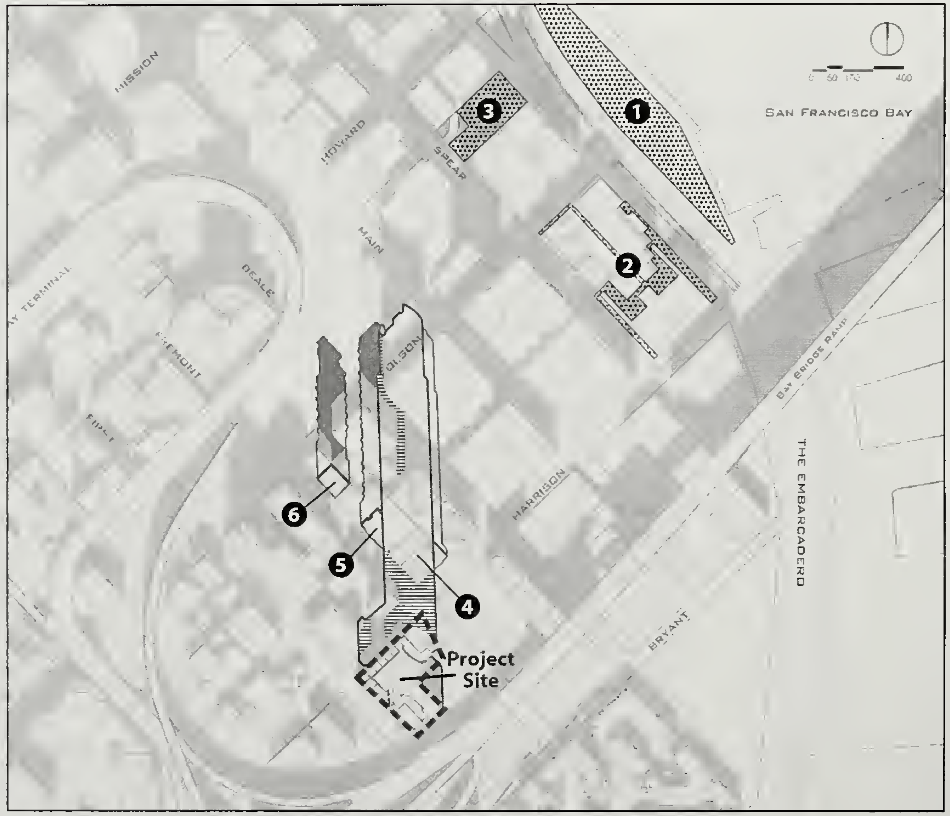
1. Rincon Park
2. Hills Plaza
3. GAP Inc.
4. Proposed 399 Fremont Project
5. Proposed 375 Fremont Project
6. Proposed 325 Fremont Project

Source: CADP Associates; EDAW, Inc.

Figure 26 - Shadow Patterns - December 21, 10 am



Existing + Project Shadow



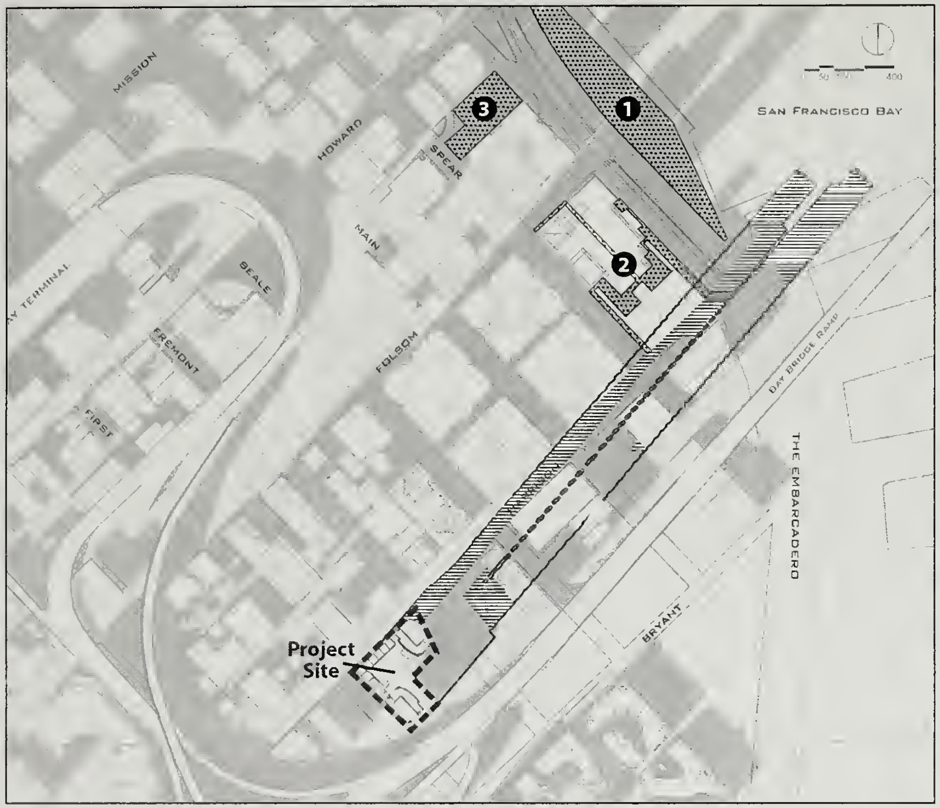
Cumulative (Four Projects) Shadow

- Existing Shadow
- Project Net New Shadow
- Cumulative Net New Shadow
- Section 295 Public Open Space
- Boundary of Project Shadow
- Project Site

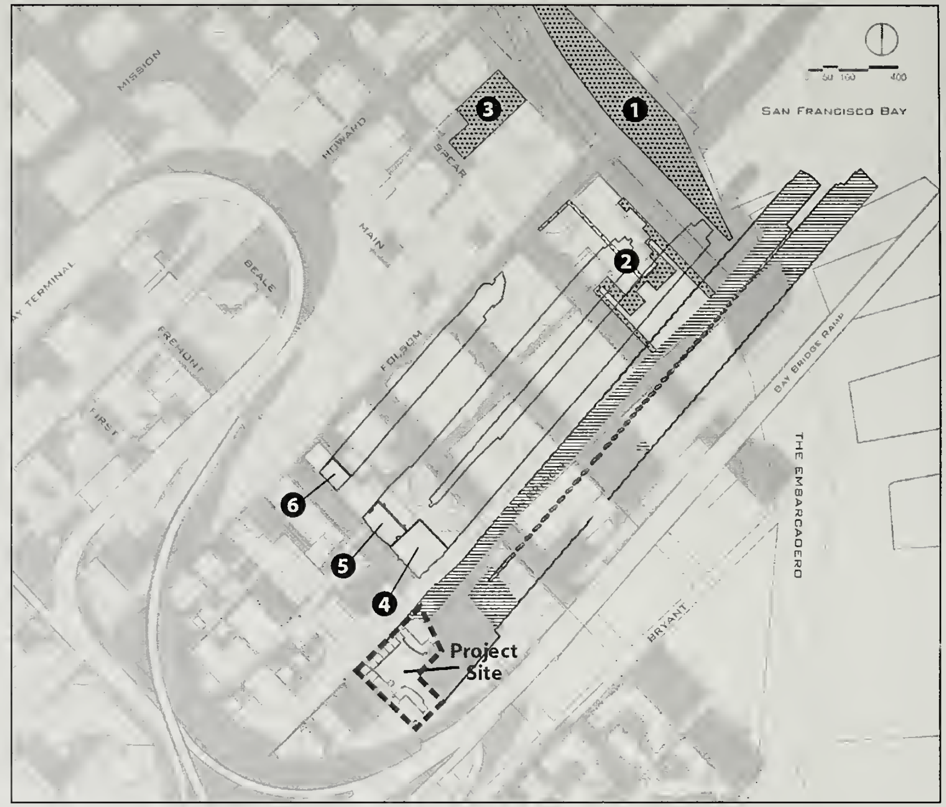
1. Rincon Park
2. Hills Plaza
3. GAP Inc.
4. Proposed 399 Fremont Project
5. Proposed 375 Fremont Project
6. Proposed 325 Fremont Project

Source: CADP Associates; EDAW, Inc.

Figure 27 - Shadow Patterns - December 21, 12 pm



Existing + Project Shadow



Cumulative (Four Projects) Shadow

- Existing Shadow
- Project Net New Shadow
- Cumulative Net New Shadow
- Section 295 Public Open Space
- Boundary of Project Shadow
- Project Site

1. Rincon Park
2. Hills Plaza
3. GAP Inc.
4. Proposed 399 Fremont Project
5. Proposed 375 Fremont Project
6. Proposed 325 Fremont Project

Source: CADP Associates; EDAW, Inc.

Figure 28 - Shadow Patterns - December 21, 3 pm

Rincon Hill Plan as a potential park location (see Figure 31, page 79). Under cumulative conditions, additional net new shadow would be created on two small locations with a total of about 75 feet of sidewalk on the east side of Beale Street between Harrison and Folsom Streets and on about 350 of the north sidewalk of Harrison Street east and west of Beale street and about 100 feet of the south sidewalk of Harrison Street midblock between Main and Beale Streets.

June 21

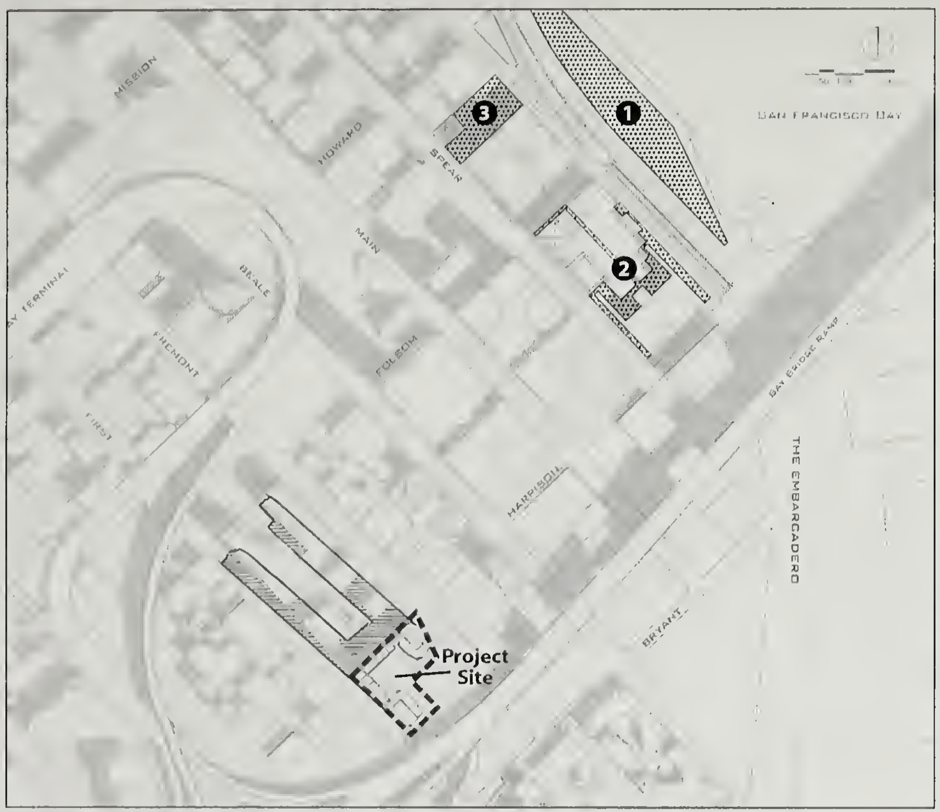
At 10:00 a.m. on June 21, the proposed project would create new shadow on about 225 feet of the south and about 350 feet of north sidewalks on Harrison Street east and west of First Street. About 175 feet of new shadow would be created on the west sidewalk of First Street south of Harrison Street, and on about 150 feet of the west sidewalk on First Street on either side of Lansing Street (see Figure 32, page 80). Under cumulative conditions, about 500 feet of net new shadow would be created on the east sidewalk and 450 feet on the south sidewalk of Fremont Street between Harrison and Folsom Streets.

At noon on June 21, the project would create new shadow on 375 feet of the south and 175 feet of the north sidewalks on the portion of Harrison Street on which the project site sits as well as 200 feet on the east sidewalk of First Street directly in front of the proposed project's entrance (see Figure 33, page 81). Under cumulative conditions, approximately 400 feet of net new shadow would be created on the sidewalk on east side of Fremont Street between Harrison and Folsom Streets.

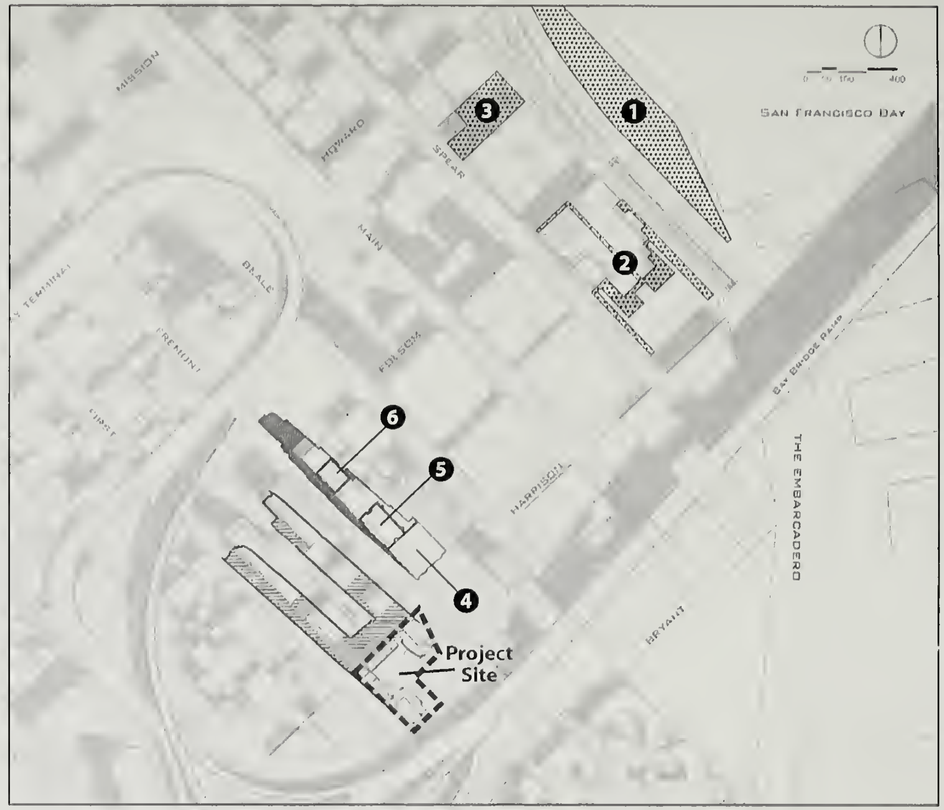
At 3:00 p.m. on June 21, the project would create new shadow on the Harrison Street off-ramp between the Bay Bridge and Harrison Street, but the off-ramp is not accessible to pedestrians. The project would create new shadow on about one third of the vacant lot across from the project site on the southeast corner of the Harrison and Fremont Streets intersection identified in the *Draft Rincon Hill Plan* as a potential park location (see Figure 34, page 82). Under cumulative conditions, additional net new shadow would be created on about 200 feet of sidewalk on the north side of Harrison Street between Beale and Fremont Streets.

September 21

At 10:00 a.m. on September 21, the project would create new shadow on about 150 and about 225 feet respectively of the south and north sidewalks of Harrison Street on which the project site sits, along 125 feet of the west sidewalk on First Street north of Harrison Street, on a tiny portion of the sidewalk on both sides of Folsom Street adjacent to the Fremont Street off-ramp (west of First Street), and on two small sections, totaling 50 feet, of the sidewalk on the north side of Folsom Street east and west of First Street (see Figure 35, page 85). Under cumulative conditions, net new shadow would be created on approximately 700 feet and about 500 feet respectively of the east and west sidewalks of Fremont Street for most of the block between Harrison and Folsom Streets and extending north of Folsom Street on both sides nearly to the Transbay Terminal bus ramp.



Existing + Project Shadow



Cumulative (Four Projects) Shadow

- Existing Shadow
- Project Net New Shadow
- Cumulative Net New Shadow
- Section 295 Public Open Space
- Boundary of Project Shadow
- Project Site

1. Rincon Park
2. Hills Plaza
3. GAP Inc.
4. Proposed 399 Fremont Project
5. Proposed 375 Fremont Project
6. Proposed 325 Fremont Project

Source: CADP Associates; EDAW, Inc.

Figure 29 - Shadow Patterns - March 21, 10 am

Existing + Project Shadow

Cumulative (Four Projects) Shadow

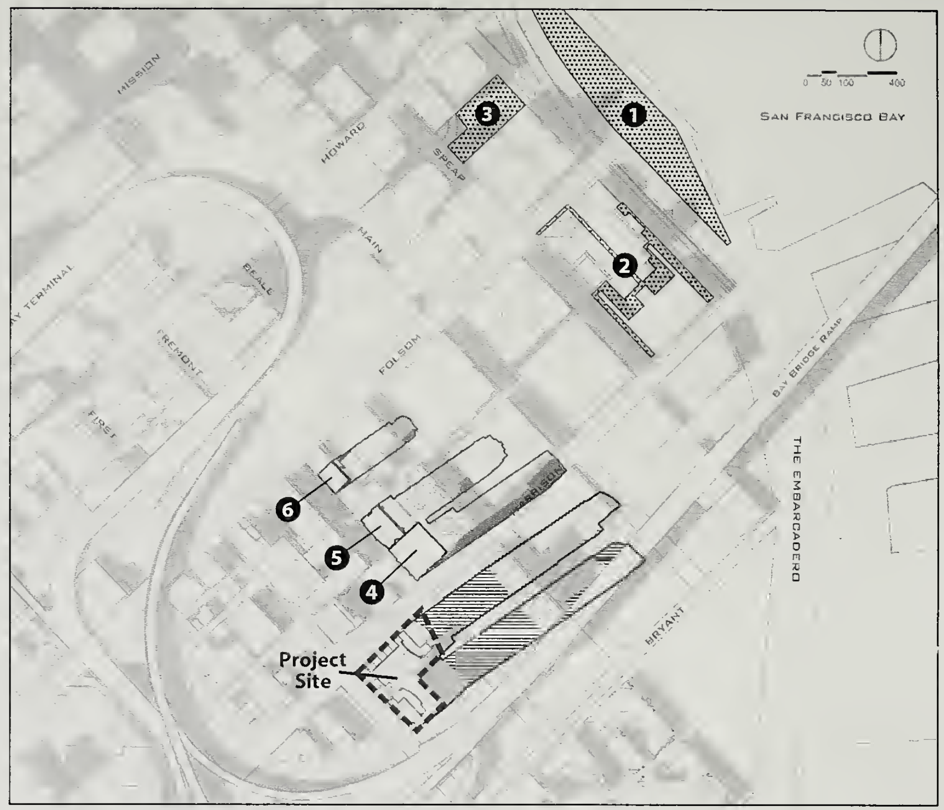
- Existing Shadow
- Project Net New Shadow
- Cumulative Net New Shadow
- Section 295 Public Open Space
- Boundary of Project Shadow
- Project Site

1. Rincon Park
2. Hills Plaza
3. GAP Inc.
4. Proposed 399 Fremont Project
5. Proposed 375 Fremont Project
6. Proposed 325 Fremont Project

Source: CADP Associates; EDAW, Inc.

Figure 30 - Shadow Patterns - March 21, 12 pm

Existing + Project Shadow



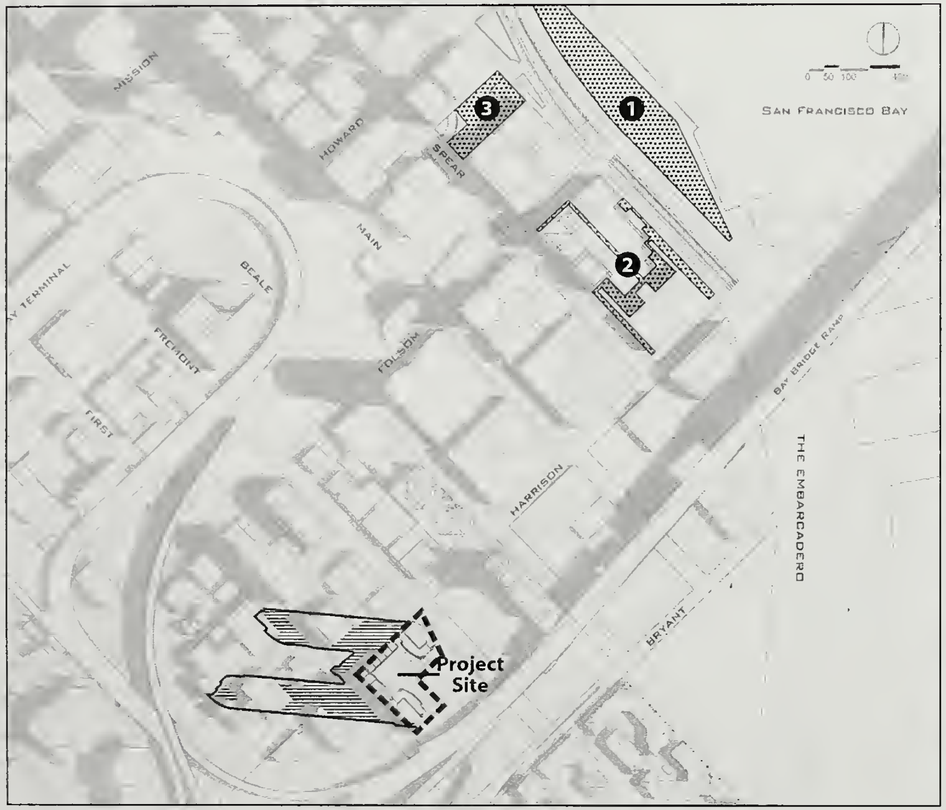
Cumulative (Four Projects) Shadow

- Existing Shadow
- Project Net New Shadow
- Cumulative Net New Shadow
- Section 295 Public Open Space
- Boundary of Project Shadow
- Project Site

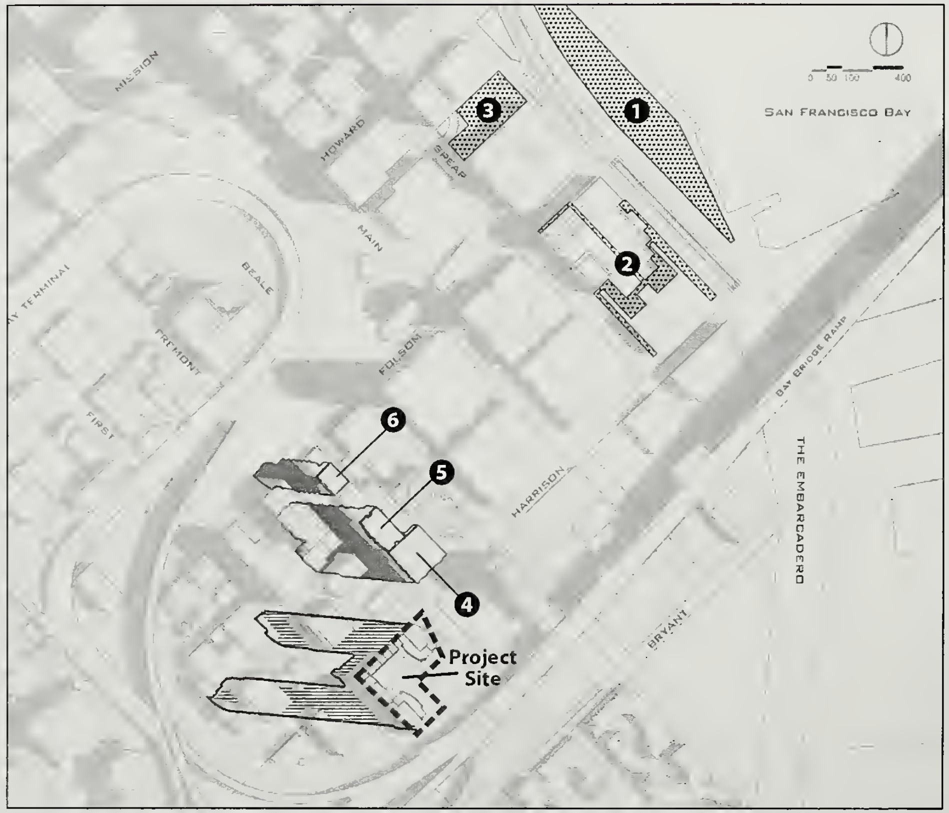
1. Rincon Park
2. Hills Plaza
3. GAP Inc.
4. Proposed 399 Fremont Project
5. Proposed 375 Fremont Project
6. Proposed 325 Fremont Project

Source: CADP Associates; EDAW, Inc.

Figure 31 - Shadow Patterns - March 21, 3 pm



Existing + Project Shadow



Cumulative (Four Projects) Shadow

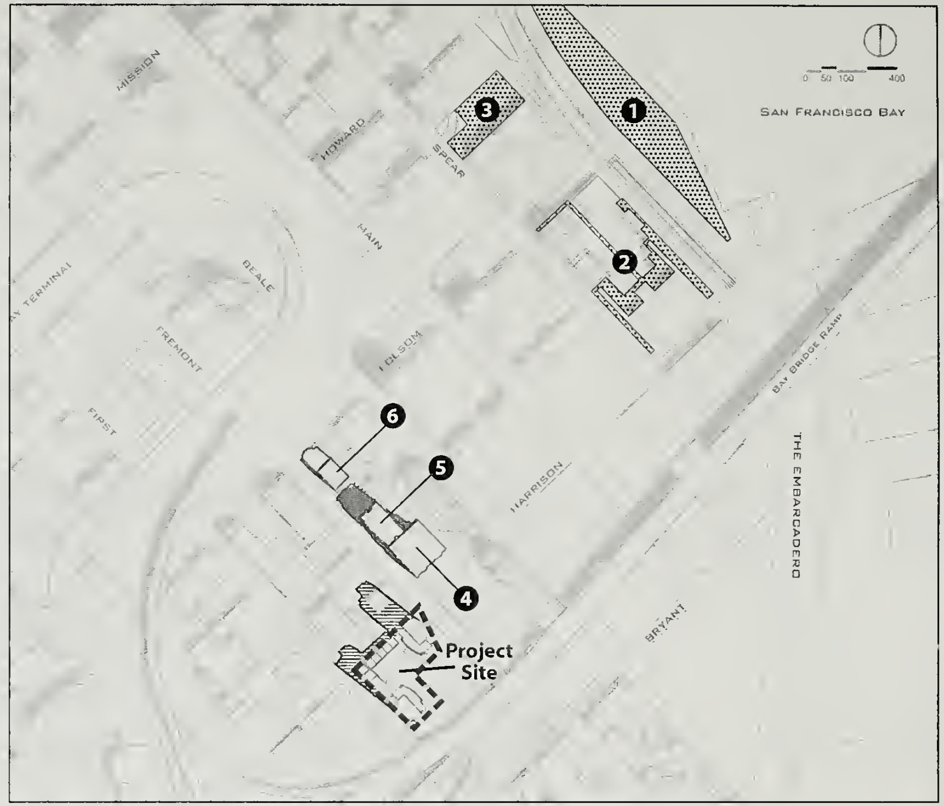
- Existing Shadow
- Project Net New Shadow
- Cumulative Net New Shadow
- Section 295 Public Open Space
- Boundary of Project Shadow
- Project Site

1. Rincon Park
2. Hills Plaza
3. GAP Inc.
4. Proposed 399 Fremont Project
5. Proposed 375 Fremont Project
6. Proposed 325 Fremont Project

Source: CADP Associates; EDAW, Inc.

Figure 32 - Shadow Patterns - June 21, 10 am

Existing + Project Shadow



Cumulative (Four Projects) Shadow

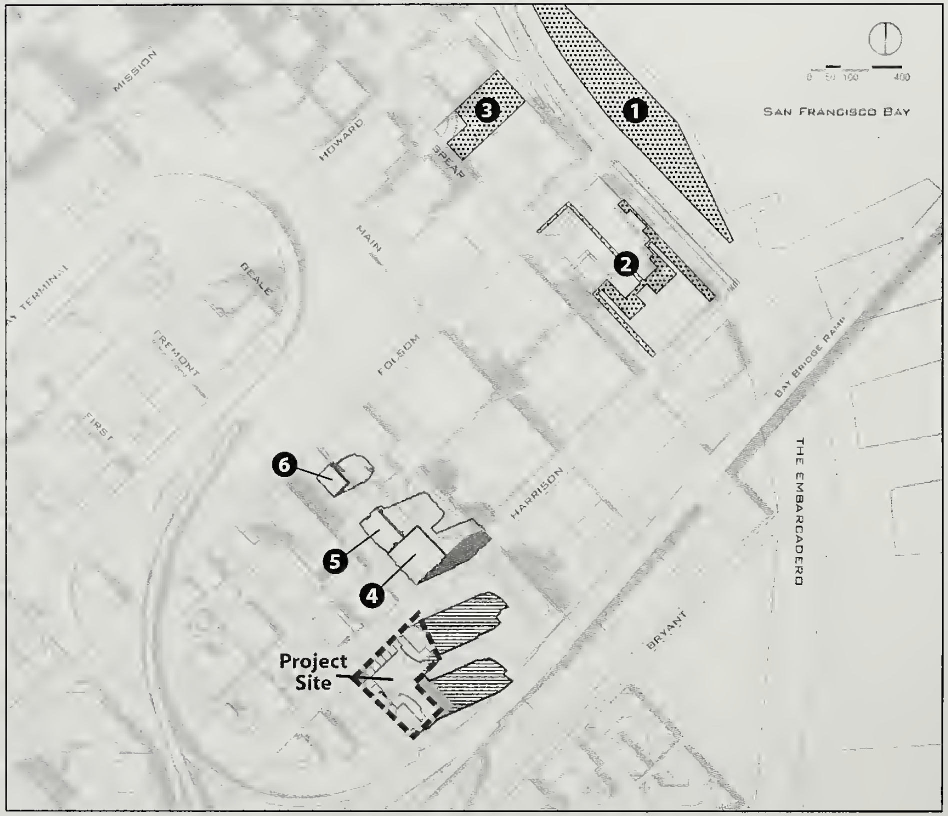
- Existing Shadow
- Project Net New Shadow
- Cumulative Net New Shadow
- Section 295 Public Open Space
- Boundary of Project Shadow
- Project Site

1. Rincon Park
2. Hills Plaza
3. GAP Inc.
4. Proposed 399 Fremont Project
5. Proposed 375 Fremont Project
6. Proposed 325 Fremont Project

Source: CADP Associates; EDAW, Inc.

Figure 33 - Shadow Patterns - June 21, 12 pm

Existing + Project Shadow



Cumulative (Four Projects) Shadow

- Existing Shadow
- Project Net New Shadow
- Cumulative Net New Shadow
- Section 295 Public Open Space
- Boundary of Project Shadow
- Project Site

1. Rincon Park
2. Hills Plaza
3. GAP Inc.
4. Proposed 399 Fremont Project
5. Proposed 375 Fremont Project
6. Proposed 325 Fremont Project

Source: CADP Associates; EDAW, Inc.

Figure 34 - Shadow Patterns - June 21, 3 pm

At noon on September 21, the project would create new shadow on about 225 and 150 feet respectively of the north and south sidewalks of the block of Harrison Street on which the project site sits and on about 250 feet of sidewalk on each side of Fremont Street from Harrison Street north to about halfway to Folsom Street (see Figure 36, page 86). Under cumulative conditions, net new shadow would be created on approximately 25 feet and 75 feet respectively of the south and north sidewalks of Folsom Street midblock between Fremont and Beale Streets.

At 3:00 p.m. on September 21, the project would create new shadow on the Harrison Street off-ramp between the Bay Bridge and Harrison Street, but the off-ramp is not accessible to pedestrians. The project would create new shadow on about 550 feet of the south side of Harrison Street from the project site to mid-block between Beale and Main Streets, on about 50 feet of the sidewalk on each side of Beale Street just south of Harrison Street, and on most of the vacant lot across from the project site on the southeast corner of the Harrison and Fremont Streets intersection identified in the *Draft Rincon Hill Plan* as a potential park location (see Figure 37, page 87). Under cumulative conditions there would be no additional net new shadow on sidewalks or open spaces.

Conclusion

With regard to project-specific shading impact, the proposed development would add net new shadows; however, this new shading would not affect existing open spaces protected by Section 295 of the *Planning Code*, such as Justin Herman Plaza, South Park, or Union Square. For this reason, the project would be in compliance with Section 295, and there would be no impact on existing Section 295 open space. [4] The project would also not add net new shadow to existing publicly accessible, privately owned open spaces.

The project would create new afternoon shadow on the vacant Caltrans lot across from the project site at the southeast corner of Harrison and Freemont Streets that the draft *Rincon Hill Plan* identifies as a potential park location. Nonetheless, because this property would receive substantial sunlight during the morning hours and would not be completely shaded during the afternoon, the impact on this property would not be considered significant. Additionally, the Recreation and Park Commission has not designated the property for acquisition; as such, this lot is not considered a Section 295 open space.

Some sidewalks would see a diminution in sunlight during certain periods of the day and the year. These net new shadows would not be in excess of that which would be normal and expected in a highly urban area. For this reason, the impact is less than significant.

With regard to cumulative shadow impacts, shading caused by the project would only marginally increase overall net new shadow when considering nearby proposed developments (325 Fremont Street, 375 Fremont and 399 Fremont proposed residential developments), which may result in shading in the same areas as the proposed development. The cumulative net new shading would not affect open spaces protected by Section

[4] Mat Snyder, San Francisco Planning Department. Letter stating that "the Department concluded that the proposed project is in compliance with Section 295 of the *Planning Code*. July 1, 2004. This letter is available for review by appointment in the project file, at the Planning Department, 1660 Mission Street, 5th Floor.

295 of the *Planning Code.* Thus, the cumulative shading impacts on existing Section 295 open spaces would be less than significant.

Some existing publicly accessible, privately owned open spaces and sidewalks not subject to Section 295 would see a diminution in sunlight, caused by cumulative shadows, during certain periods of the day and the year, as well as open spaces planned pursuant to the proposed *Rincon Hill Plan.* This new shadow would not be in excess of that which would be normal and expected in a highly urban area. Therefore, given that the existing public access areas and planned open space would still receive substantial sunlight and would, therefore, not be substantially affected by shading in an adverse manner so as to render the open spaces uninviting or unusable, shadow impacts associated with the proposed project, when considered by itself and with 325 Fremont Street, 375 Fremont, and 399 Fremont proposed residential developments, would be considered less than significant.

Existing + Project Shadow

Cumulative (Four Projects) Shadow

Existing Shadow
Project Net New Shadow
Cumulative Net New Shadow
Section 295 Public Open Space
Boundary of Project Shadow
Project Site

1. Rincon Park
2. Hills Plaza
3. GAP Inc.
4. Proposed 399 Fremont Project
5. Proposed 375 Fremont Project
6. Proposed 325 Fremont Project

Source: CADP Associates; EDAW, Inc.

Figure 35 - Shadow Patterns - September 21, 10 am

Existing + Project Shadow

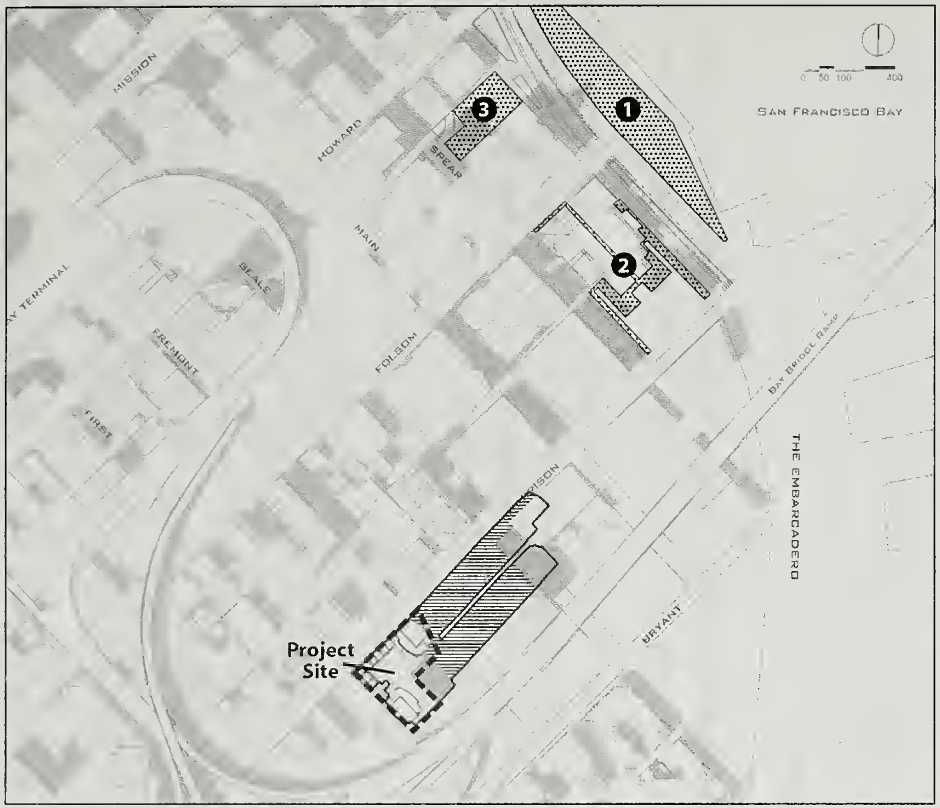
Cumulative (Four Projects) Shadow

- Existing Shadow
- Project Net New Shadow
- Cumulative Net New Shadow
- Section 295 Public Open Space
- Boundary of Project Shadow
- Project Site

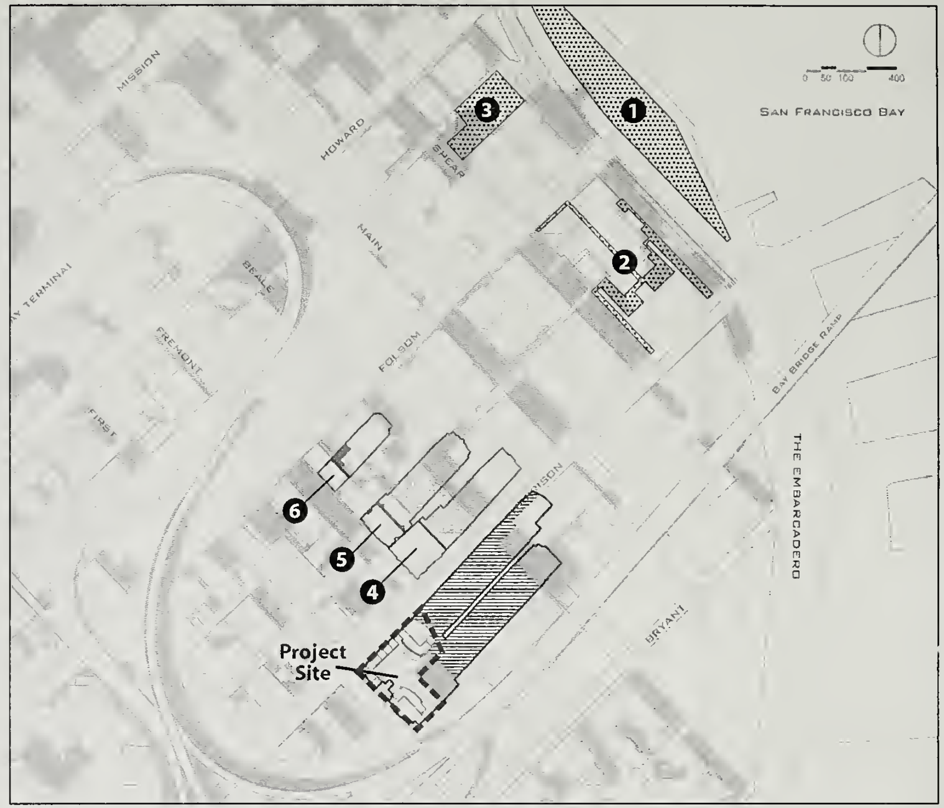
1. Rincon Park
2. Hills Plaza
3. GAP Inc.
4. Proposed 399 Fremont Project
5. Proposed 375 Fremont Project
6. Proposed 325 Fremont Project

Source: CADP Associates; EDAW, Inc.

Figure 36 - Shadow Patterns - September 21, 12 pm



Existing + Project Shadow



Cumulative (Four Projects) Shadow

- Existing Shadow
- Project Net New Shadow
- Cumulative Net New Shadow
- Section 295 Public Open Space
- Boundary of Project Shadow
- Project Site

1. Rincon Park
2. Hills Plaza
3. GAP Inc.
4. Proposed 399 Fremont Project
5. Proposed 375 Fremont Project
6. Proposed 325 Fremont Project

Source: CADP Associates; EDAW, Inc.

Figure 37 - Shadow Patterns - September 21, 3 pm

D. WIND

The discussion in this section is summarized from Technical Memoranda (see Appendix B) and correspondence regarding potential wind conditions prepared by an independent consultant.[1]

SETTING

Westerly (from the west) to northwesterly winds are the most frequent in San Francisco. Historic wind records from the U.S. Weather Bureau weather station atop the old Federal Building at 50 United Nations Plaza during the years 1945-1950 show that of the 16 primary wind directions measured at the weather station, four occur most frequently and account for most of the strongest winds: northwest, west-northwest, west, and southwest. Calm conditions occur about two percent of the time. Typically, the highest wind speeds occur during the mid-to late afternoon hours and the lowest occur during early morning hours. Average wind speeds are highest during summer and lowest during winter. Wind direction is most variable and the strongest peak winds occur during winter, when speeds of up to 47 miles per hour (mph) have been recorded.

Wind Hazard Criterion

In addition to Rincon Hill Special Use District (SUD) comfort criteria described below, the San Francisco *Planning Code* (Section 249.1(b)(3)) establishes a wind hazard criterion. The hazard criterion, which is set at an hourly averaged wind speed of 26 mph at pedestrian level, is not to be exceeded more than once during the year. No building or addition is permitted that would cause wind speeds to exceed the hazard level of more than one full hour of any year. No exception may be granted.

Pedestrian and Seating Comfort Criteria

Wind conditions affect pedestrian comfort on sidewalks, public seating areas, and in other public and publicly accessible areas. The comfort of pedestrians varies under different conditions of sun exposure, temperature, clothing, and wind speed.

Large buildings can redirect wind flows around buildings and divert winds downward to street level, resulting in increased wind speeds and turbulence there. To provide a comfortable wind environment for San Francisco, the City established wind criteria for the Rincon Hill SUD within Section 249.1(b)(3) of the *Planning Code*. The comfort criteria are based on pedestrian-level winds speeds that include the effects of turbulence. These adjusted wind speeds are referred to as "equivalent wind speeds." Section 249.1(b)(3) of

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[1] *Technical Memorandum: Potential Wind Conditions, Proposed One Rincon Hill Development, San Francisco California*, Environmental Science Associates, August 12, 2004; *Technical Memorandum: Potential Wind Conditions for 2 Alternative Designs of the Project, Proposed One Rincon Hill Development, San Francisco California*, Environmental Science Associates, August 18, 2004; see appendix B. *Technical Memorandum: Wind Tunnel Mitigation Testing - One Rincon Hill Development, San Francisco California*, Environmental Science Associates, December 3, 2004; *Technical Memorandum: Consideration of Project Effect on Winds on Bay Bridge - One Rincon Hill Development, San Francisco California*, Environmental Science Associates, December 6, 2004; and oral communication between Chuck Bennett, ESA, and Steven Huang, EDAW, January 20, 2005. These Technical Memoranda and correspondence log are available for public review by appointment in Project File No. 2003.0029E at the San Francisco Planning Department, 1660 Mission Street, Fifth Floor, San Francisco, CA 94103.

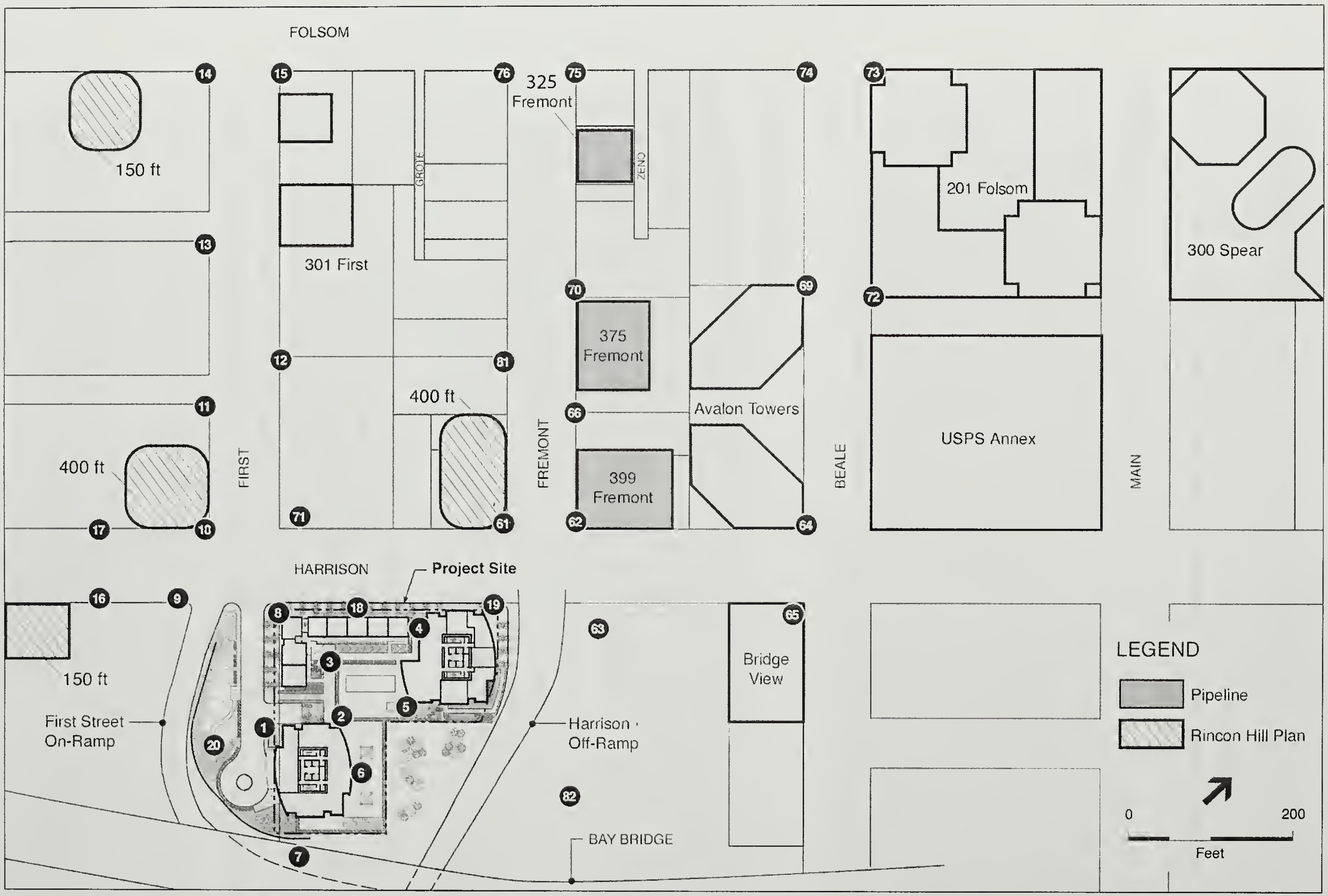
the *Planning Code* establishes comfort criteria, which are equivalent wind speeds of 7 mph in public seating areas and 11 mph in areas of substantial pedestrian use. New buildings and additions to buildings may not cause ground-level winds to exceed these levels more than 10 percent of the time. According to the *Planning Code*, if existing wind speeds exceed the comfort level or if a proposed building or addition may cause ambient speed to exceed the criteria, new buildings and additions must be designed to reduce ambient wind speeds to meet these requirements, unless the Zoning Administrator determines that certain requirements are met for an allowable exception as described in Section 249.1(b)(3). The requirements for an exception include the following circumstances: 1) a building or addition cannot be shaped and other wind-baffling measures cannot be adopted to meet the foregoing requirements without creating an unattractive and ungainly building form and without unduly restricting the development potential of the building site in question, and (2) because of the limited amount by which the comfort level would be exceeded, the limited location in which the comfort level would be exceeded, or the limited time during which the comfort level would be exceeded, the addition is deemed insubstantial. Compliance with the *Planning Code* wind criteria will be considered as part of the project review process. In administering Section 249.1(b)(3), the Planning Department requires wind tunnel testing for tall buildings.

Methodology

Two sets of wind tunnel tests were conducted for the project. The first set of tests, described in the Technical Memo dated August 12, 2004, was conducted for the project site under several scenarios, including: the Existing Setting; the Existing Setting Plus Project; a cumulative scenario with projects identified by the Planning Department (Cumulative Scenario 1, including projects for which an application has been filed); a cumulative scenario with development according to the Preferred Option of the draft *Rincon Hill Plan* (Cumulative Scenario 2, which includes developments under the supplements to the draft *Rincon Hill Plan*); and a cumulative scenario with development according to the draft *Rincon Hill Plan's* option with 82.5-foot tower separations and current height and bulk limits (Cumulative Scenario 3, which includes development under the so-called March 2003 Rincon Hill proposal). This report with detailed methodology and results is included in Appendix B-1.

Using a wind tunnel and a scale model of the project site and surrounding area, wind speed measurements were taken at 26 (existing) and 31 (proposed-project and three cumulative scenarios) pedestrian-level locations. In addition, a location on the Bay Bridge West Approach adjacent to the project site was tested under all test scenarios. The larger number of proposed project test points includes five additional points (test points nos. 2 through 6) on the project open space on the podium terrace that do not exist in the Existing Setting. Figure 38, page 90, Wind Speed Measurement Locations, shows the locations for which measurements were made. In accordance with the San Francisco wind ordinance methodology, the model was tested for the four dominant wind directions: northwest, west-northwest, west, and southwest.

Because the first set of tests found that a wind hazard criterion exceedance occurred at test point no. 19 (at the northeast corner of the project), a second set of tests was conducted to assess the effectiveness of various project design and other measures intended to reduce wind speeds at test point no. 19 to less than the wind hazard criterion speed. The second set of tests were conducted for southwest winds, because southwest



Source: ESA, EDAW, Inc.

Figure 38 - Wind Speed Measurement Locations

winds contributed most of the hazard criterion exceedance. The second set of tests measured wind speeds under the Existing Setting Plus Project scenario modified with features that include wind gutters that cut into the towers, street trees, north tower base arcade, and upper canopy for townhomes, and vertical drag fins. These features have been incorporated into the design of the project. It was found that the addition of these features to the project eliminated the wind hazard at test point no. 19 under the Existing Setting Plus Project scenario. The results of this second set of tests are described in a technical memorandum dated December 3, 2004.[2]

Existing Setting

The setting conditions analyzed in the wind tunnel included the existing office building complex on the project site using a scale model of the existing buildings and structures in the project vicinity. The 40-50 Lansing Street, 325 Fremont Street, 201 Folsom Street, and 300 Spear Street buildings, which have been approved but are not yet under construction, were also included in the model.

The general vicinity of the project site has moderate to windy conditions. However, in the vicinity of the project area, winds are generally lower than those that occur over much of the South of Market area. As shown in Table 1 of Appendix B-1, wind speeds range from 7 mph to 19 mph and exceed the pedestrian comfort criterion of 11 mph at 12 of the 26 pedestrian-level locations in the project vicinity. The comfort criterion of 7 mph for public seating areas was considered but was not applied to the test points, as none of the test points are considered public seating areas. The areas of exceedance of the pedestrian comfort criterion include locations: on First Street adjacent to the project site and between Harrison and Folsom Streets; at the southwest corner of Folsom and Fremont Streets; on the south side of Harrison Street from west of First Street to a point half-way to Fremont Street; along the project frontage on the east side of First Street; and, at the southwest corner of Harrison Street and its bridge over Beale Street.

As shown in Table 2 of Appendix B-1, the average wind speed for the existing test points is 11.2 mph. Wind speeds under Existing Setting exceed the hazard criterion of 26 mph for more than one hour per year at one of the 26 pedestrian-level test locations. The location (test point no. 65, at which the hazard criterion is exceeded for two hours per year) is alongside the Bridgeview residential building at the southwest corner of where the Harrison Street bridge spans Beale Street (see Figure 38, page 90, for test point locations).

IMPACTS

Significance Criteria

A project that would cause equivalent wind speeds to newly reach or exceed 26 mph for a single full hour of the year at publicly accessible pedestrian locations (hazard criterion) would be considered to have a significant impact. A project that would cause exceedances of the comfort criteria, but not the wind hazard criterion,

[2] This memorandum is available for review by appointment in Project File No. 2003.0029E at the San Francisco Planning Department, 1660 Mission Street, Fifth Floor, San Francisco CA 94103.

would not be considered to have a significant impact. A project that would cause exceedances of the hazard criteria at locations that are not public pedestrian areas would not be considered to have a significant impact.

Project Conditions

Pedestrian and Seating Comfort Criteria

Based on the results of the first set of wind tunnel tests, the project would change wind conditions in the area compared to Existing Setting. Under the Existing-plus-Project conditions, the average wind speed for the existing test points would increase by about 1.1 mph to an average of 12.2 mph. Wind speeds in these existing pedestrian areas would range from 7 to 21 mph with the project, compared to 7 to 19 mph under the existing conditions. With the project, there would be 15 exceedances of the pedestrian comfort criteria on publicly accessible pedestrian locations, including new exceedances at six test locations (nos. 19, 61-63, 74, 82): the four corners of the Fremont-Harrison intersection; one on the east side of the Harrison Street off-ramp; one at the corner of Folsom and Beale Streets. Two of these six locations, no. 63 and no. 82, would be on the vacant lot across the Harrison Street off-ramp from the project site where the draft *Rincon Hill Plan* has identified a potential public park site. Generally near the project site at the corner of First and Harrison Streets, the project would eliminate three existing pedestrian comfort criterion exceedances (nos. 1, 13, 16): one on the project site; one on the south side of Harrison, west of First Street; and, one on the corner of First Street and Guy Place. Overall, the project would result in a net increase of three exceedances over Existing Setting. Under the Existing-plus-Project conditions, winds at four of the five new locations on the project site, as well as the test point on the Bay Bridge West Approach (no. 7) would be in excess of the *Planning Code*'s 11 mph pedestrian-comfort criterion. The locations on the project site would be for the use of project residents and would not be publicly accessible; thus, the comfort criterion of 7 mph for public seating areas was not applied to these locations, as none of the them are considered public seating areas. Under Existing-plus-Project scenario as compared to the Existing Setting, wind speeds in public areas would increase at 11 locations, remain unchanged at 3 locations, and decrease at 12 locations.

Overall, existing wind speeds at 12 of the 31 test points (nos. 1, 3, 11, 13-17, 64, 70, 75, 81) would be at or less than the *Planning Code*'s pedestrian-comfort criterion value of 11 mph. These include test points at: three locations on the project site; two test points on both sides of Harrison west of First Street; two test points of the west side of First street between Guy Place and Lansing; three locations on Folsom at First and Fremont; two locations on both sides of Fremont between Folsom and Harrison; and, one location of the northwest corner of Harrison and Beale.

Wind Hazard Criteria

With regard to the Code's wind hazard criterion, the project would not cause exceedances at public pedestrian locations. As described above under Methodology, the proposed north tower would incorporate a number of features that would avoid the exceedance of the wind hazard criterion at the one public pedestrian location (no.19), at the northeast corner of the project site, where wind speed was estimated to be the highest among the public pedestrian locations in the study area, and in excess of the hazard criterion. The project would eliminate the existing hazard exceedance, with a duration of 2 hours per year, on the south side of Harrison Street, at the bridge that spans Beale Street (no. 65). Compared to Existing Setting, the project would eliminate the existing hazard criterion exceedance while adding no new exceedances at publicly accessible pedestrian locations.

With regard to test point locations that are not public pedestrian areas, the project would result in two hazard exceedances on the project terrace (location no. 2 for 26 hours per year and location no. 5 for 131 hours per year) and contribute to one exceedance on the Bay Bridge West Approach (location no. 7 for 6 hours per year). Because these three exceedances would not occur in public spaces, they are not subject to the provisions of Section 249.1(b)(3). In particular, the Bay Bridge West Approach test point location is on the vehicle deck of the approach. While there may be infrequent occasions when there are pedestrians on the Bay Bridge West Approach (i.e., car accidents), they would not necessarily occur during times when wind hazard criterion is exceeded (6 hours per year). In such an event, people would have the opportunity to prepare themselves to deal with the high wind prior to leaving their vehicles (i.e., holding on to adjacent vehicles and bridge railings). In summary, wind hazards as defined by Section 249.1(b)(3), in public areas would not result from the project.

Cumulative Conditions

The wind tunnel tests included three cumulative scenarios. The following summarizes the wind tunnel analysis, focusing primarily on Cumulative Scenario 1 (the pipeline projects scenario including the project and other proposed development that is under formal review by the Planning Department) that is typically considered in wind tunnel testing reporting in San Francisco EIRs. Information is also provided on the other two cumulative scenarios, which relate to planning efforts for the area.

Pedestrian and Seating Comfort Criteria

Under Cumulative Scenario 1, compared to project conditions, the average wind speed for all test points combined would increase slightly from 12.2 to 12.3 mph. Under Cumulative Scenario 1, wind speeds in public pedestrian areas would range from 8 to 20 mph compared to 7 to 19 mph with existing conditions; the highest wind speeds in the vicinity (20 mph) would be at the northeast corner of the project site (no.19) and also occur in front of the Sailors Union of the Pacific building located at the northeast corner of Harrison and First Streets (no.71). Under Cumulative Scenario 1, as compared to the project, wind speeds in existing public areas would increase at 14 locations. Under Cumulative Scenario 1, the average wind speed for all test points would increase slightly compared to Existing Setting and to Existing-plus-Project conditions to 12.3 mph. The highest wind speeds in the vicinity (21 mph) would be on the project terrace (no. 2). The next highest wind speed (20 mph) would be at the northeast corner of the project site (no. 19) and also occur in front of the Sailors Union of the Pacific building located at the northeast corner of Harrison and First Streets (no. 71). Under Cumulative Scenario 1, as compared to Existing-plus-Project, wind speeds in public areas would increase at 15 locations, remain unchanged at 5 locations, and decrease at 11 locations. Cumulative Scenario 1 would eliminate three project (nos. 61, 63, 82) and one existing (no. 76) pedestrian-comfort criterion exceedances (see Figure 38, page 90, for locations) and add four new exceedances compared to project conditions (nos. 1, 13, 16, 17) (see Figure 38, page 90, for locations), resulting in no net increase or decrease of exceedances as compared to Existing-plus-Project conditions.

Under Cumulative Scenario 1 conditions, wind speeds at 12 of the pedestrian locations would be at or less than the *Planning Code*'s pedestrian-comfort criterion (nos. 3, 11, 14, 15, 61, 63, 64, 70, 75, 76, 81, 82) (see Figure 38 below, for locations).

Under Cumulative Scenario 1 condition, winds at four of the five new locations on the project terrace (nos. 2, 4, 5, 6), would remain in excess of the *Planning Code*'s 11 mph pedestrian-comfort criterion. See Figure 38 above, and Table 1 of Appendix B-1.

For Cumulative Scenario 2 (the Preferred Option) and Cumulative Scenario 3 (82.5-foot tower separation), the average wind speed for all test points would also decrease relative to the project, to 11.9 and 12.0 mph, respectively, as compared to 12.2 mph with the project, but would increase relative to the average wind speed of 11.2 mph with Existing Setting. These two scenarios would eliminate pedestrian comfort criteria exceedances (four under Cumulative Scenario 2 and five under Cumulative Scenario 3) and would add new exceedances (two under Cumulative Scenario 2 and four under Cumulative Scenario 3) as compared to project conditions, resulting in a net decrease of two and one exceedances, respectively, as compared to Existing-plus-Project conditions.

Wind Hazard Criteria

As described under Project Conditions, above, test location no. 19, at the northeast corner of the project site, is the only public pedestrian location where a wind hazard criterion exceedance would occur if no wind-reducing features were to be incorporated into the north tower of the project. Without the project's wind-reducing features, the Code's wind hazard criterion would be exceeded at the same public pedestrian location (no. 19) at the northeast corner of the project site under Cumulative Scenario 1. However, with the wind reducing features incorporated into the project, no exceedance of the wind hazard criterion would occur for Cumulative Scenario 1. Furthermore, Cumulative Scenario 1 would also eliminate the one existing exceedance of the hazard criterion (no. 65, at Beale and Harrison Streets, for a duration of two hours per year). Compared to Existing Setting, Cumulative Scenario 1 would avoid the existing hazardous wind condition without adding new exceedances.

Cumulative Scenario 2 would result in fewer hours of exceedance at location no. 19 than under Existing-plus-Project conditions. Since incorporation of wind-reducing features would avoid wind hazard exceedance under the Existing-plus-Project conditions, no exceedance of wind hazard criterion would occur at location 19 for Cumulative Scenario 2. Cumulative Scenario 2 would also eliminate the single existing exceedance of the hazard criterion (no. 65, at Beale and Harrison Streets). However, Cumulative Scenario 2 would result in two additional hazard exceedances each for 1 hour per year at location no. 11, which is at First and Lansing Streets, and location no. 62, at Fremont and Harrison Streets. When all test locations are considered together, Cumulative Scenario 2 exceedances would have the same total duration (2 hours per year) as the Existing

Setting exceedances. Compared to Existing-plus-Project conditions, Cumulative Scenario 2 would increase the total duration of exceedances by 2 hours.

Cumulative Scenario 3 would avoid the exceedance at point no. 19, with or without the project wind-reducing features. Cumulative Scenario 3 would eliminate one existing exceedance (no. 65). However, Cumulative Scenario 3 would result in one additional hazard exceedance (at location no. 11), as compared to Existing-plus-Project conditions. This exceedance would occur one hour per year. Compared to Existing Setting, Cumulative Scenario 3 would eliminate one existing hazardous wind condition and add one new hazardous wind condition, while decreasing the total duration of exceedances by 1 hour.

With regard to test point locations that are not public pedestrian locations, the wind-reducing features may not reduce the equivalent wind speed to below the wind hazard criterion for all hours of the year. Based on the first wind test set, Cumulative Scenario 1 would result in one hazard exceedance in the project's open spaces on the project terrace (location no. 2 for 4 hours per year) and one exceedance on the Bay Bridge West Approach (location 7 for 6 hours per year). This is one fewer exceedance than under the Existing-plus-Project conditions. The total duration of the two exceedances on the project terrace would be reduced by 153 hours per year as compared to Existing-plus-Project conditions, while the duration of the exceedance on the Bay Bridge West Approach would be unchanged.

For Cumulative Scenario 2, there would be one hazard exceedance in the project's open spaces on the project terrace (location no. 2 for 7 hours per year) and one exceedance on the Bay Bridge West Approach (location no. 7 for 5 hours per year). This is one less exceedance than under the Existing-plus-Project conditions. The total duration of the exceedances on the project terrace would be reduced by 150 hours per year as compared to Existing-plus-Project conditions, while the duration of the exceedance on the Bay Bridge West Approach would be decreased by about 1 hour as compared to Existing-plus-Project conditions.

For Cumulative Scenario 3, there would be no hazard exceedances in the project's open spaces on the project terrace and one exceedance on the Bay Bridge West Approach (location no. 7 for 5 hours per year). Thus, Cumulative Scenario 3 would result in two fewer exceedances than under the Existing-plus-Project conditions. The duration of the exceedance on the Bay Bridge West Approach would be decreased by 1 hour as compared to Existing-plus-Project conditions.

Conclusion

With the incorporation of wind-reducing features, as proposed, the project would not cause exceedances of the *Planning Code* wind hazard criterion on public sidewalks and open spaces. For this reason, the project would not result in significant project-specific wind impacts. While the project would cause exceedances of the wind comfort criteria, these environmental impacts are not considered significant.

Like the project, Cumulative Scenario 1 would eliminate the existing hazardous wind condition without adding a new exceedance. Compared to Existing Setting, Cumulative Scenario 2 also would eliminate the one existing hazardous wind condition but would add two new hazardous wind conditions with a total duration of

2 hours per year, the same as under the Existing Setting conditions. Cumulative Scenario 3 would eliminate the one existing hazardous wind condition and add one new hazardous wind condition; the total duration of exceedance would be 1 hour per year, an hour per year less than under the Existing Setting condition. Given the overall maintenance or decrease in the total duration of wind hazard exceedances, all cumulative scenarios would result in less-than-significant impacts.

In addition, while all three cumulative scenarios would result in exceedances of the wind hazard criterion at locations that are not publicly accessible to pedestrians and would cause exceedances of the wind comfort criteria, these environmental impacts are not considered to be significant.

E. TRANSPORTATION

A transportation study was prepared for the EIR by an independent consultant and this information is used and summarized in this section.[1]

SETTING

The existing conditions (including traffic, transit, parking, pedestrians and bicycles) presented in this analysis are based on observations and counts conducted in 2000 and 2003, plus the most recent data obtained from the San Francisco Municipal Railway (Muni) and the regional transit operators.

TRANSPORTATION STUDY AREA

The transportation analysis established study areas and analysis locations around the project site for traffic, transit and parking. These study areas are shown on Figure 39, page 100.

For the traffic analysis, seven study intersections were identified as locations likely to be most affected by the project. The study intersections include the intersections along First and Fremont Streets adjacent to the project block, and on the Harrison Street and Essex Street approaches to the Bay Bridge. Intersections more distant from the project site were not analyzed as part of this study, since project-generated traffic would be dispersed among the many local streets farther from the project site, and consequently, would be less than at the study intersections. Existing and future 2020 Cumulative conditions within a wider study area were analyzed and presented in the 300 Spear Street Final EIR[2] and the *Rincon Hill Plan Draft EIR*[3].

The transit study area includes the local and regional transit service within two blocks (approximately ¼ mile) of the project site. The parking study area is bounded by Howard Street to the north, Beale Street to the east, Bryant Street to the south and Hawthorne Street to the west. The pedestrian and bicycle study area includes the local streets adjacent to the project block.

ROADWAY NETWORK

Regional Freeways

The project site is served by Interstate 80 (I-80), U.S. 101 and Interstate 280 (I-280). I-80 provides the primary regional access to the project area. The San Francisco-Oakland Bay Bridge is part of I-80 and connects San Francisco with the East Bay and points east. Access to the project site is via the Bay Bridge

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1 *One Rincon Hill Transportation Study – Final Report*, December 7, 2004, prepared by LCW Consulting. This report is on file and available for public review by appointment at the San Francisco Planning Department, located at 1660 Mission Street, Fifth Floor, as part of Project File No. 2003.0029E.

2 City and County of San Francisco Planning Department, *300 Spear Street Final Environmental Impact Report*, September 4, 2003. This report is on file and available for public review by appointment at the San Francisco Planning Department, located at 1660 Mission Street, Fifth Floor, as part of Project File No. 2000.1090E.

3 City and County of San Francisco Planning Department, *Rincon Hill Plan Draft Environmental Impact Report,* September 25, 2004. This report is on file and available for public review by appointment at the San Francisco Planning Department, located at 1660 Mission Street, Fifth Floor, as part of Project File No. 2000.1081E.

Harrison/Fremont off-ramp and the Fourth/Bryant off-ramp; and access to I-80 eastbound is via the First Street, Essex Street and Sterling Street (high-occupancy vehicles only) on-ramps (eastbound) and the Fourth/Harrison on-ramp (westbound). I-80 joins U.S. 101 to the southwest of the project site and provides access to the Peninsula and South Bay. In addition, U.S. 101 connects San Francisco and the North Bay via Van Ness Avenue and Lombard Street to the Golden Gate Bridge. I-280 provides regional access from the South of Market area of downtown San Francisco to southwest San Francisco and the South Bay/Peninsula. Nearby access points to I-280 are located at King Street near Fifth Street, and at Sixth Street at Brannan Street.

Local Streets

In the South of Market area, streets that run in the northwest/southeast direction are generally referred to herein as north-south streets, whereas streets that run in the southwest/northeast direction are referred to as east-west streets. Table 1 on page 102, presents the San Francisco *General Plan* designations for the streets and bicycle routes in the vicinity of the project site.

- **Howard Street** runs east-west between The Embarcadero and South Van Ness Avenue. It is a two-way arterial with two travel lanes in each direction between The Embarcadero and Fremont Street, and a one-way arterial west of Fremont Street with four travel lanes in the westbound direction. Howard Street is part of the #30 bicycle route.

- **Folsom Street** is a four-lane eastbound one-way arterial from Eleventh Street to Main Street, and is a two-way arterial with three eastbound lanes and one westbound lane between Main Street and The Embarcadero. Folsom Street is part of the #30 bicycle route, and has a five-foot wide bicycle lane on the south side of the street.

- **Harrison Street** runs east-west between The Embarcadero and Norwich Street (south of Cesar Chavez Street). Harrison Street operates two-way between The Embarcadero and Third Street, one-way westbound between Third and Tenth Streets, and two-way between Tenth and Norwich Streets. Between Beale and First Streets, Harrison Street has one eastbound and three westbound travel lanes. Adjacent to the project site, Harrison Street has 8-foot wide sidewalks and on-street parking on both sides of the street.

- **Main Street** is a north-south roadway that runs between Market and Bryant Streets. South of Folsom Street, Main Street is a two-way roadway with one northbound travel lane and two southbound travel lanes. North of Folsom Street, Main Street operates one-way northbound only, with three travel lanes.

- **Beale Street** is a north-south street that runs between Market and Bryant Streets, and ends in a cul-de-sac south of Bryant Street. Beale Street underneath I-80/Bay Bridge has been closed since September of 2001, and it is not currently known if the closure will be temporary or permanent.

- **Fremont Street** is a north-south arterial that runs between Harrison and Market Streets. Two off-ramps from eastbound I-80 touch down on Fremont Street (at Harrison Street, and mid-block between Howard and Folsom Streets). North of Folsom Street, Fremont Street operates one-way northbound only, with two to four travel lanes.

- **First Street** is a one-way southbound arterial between Market and Harrison Streets, ending in a stub south of Harrison Street adjacent to the project site and provides access to eastbound I-80 and the Bay Bridge. Between Market and Howard Streets, one of the four travel lanes is dedicated for transit vehicles only.

- **Second Street** is a two-way street between Market and King Streets, with two lanes in both the northbound and southbound directions. Second Street is part of the #11 bicycle route.

Intersection Operating Conditions

Operating characteristics of intersections are described by the concept of Level of Service (LOS). LOS is a qualitative description of an intersection's performance based on the average delay per vehicle. Intersection levels of service range from LOS A, which indicates free flow or excellent conditions with short delays, to LOS F, which indicates congested conditions with extremely long delays. LOS A through D are considered acceptable LOS (excellent to satisfactory) service levels. LOS E is undesirable, and LOS F conditions are considered unacceptable.

Existing intersection operating conditions were evaluated for the weekday p.m. peak hour (generally between 5:00 and 6:00 p.m.) of the peak period (4:00 to 6:00 p.m.) for the seven study intersections. The p.m. peak hour was chosen for detailed quantitative analysis because it is the period when the maximum use of the transportation system occurs and when most of the system is at service capacity. Existing weekday p.m. peak hour intersection operating conditions are presented in Table 3 Intersection Level of Service, on page 109 in the Impacts section of this chapter. During the weekday p.m. peak hour, three of the seven study intersections currently operate with acceptable conditions (LOS D or better), one intersection operates at unacceptable LOS E operating conditions, and three intersections operate with unacceptable LOS F operating conditions. The four intersections that currently operate at LOS E or F conditions are located on the primary approaches to I-80 and the Bay Bridge (Folsom/First, Harrison/Second, Harrison/Essex and Harrison/First adjacent to the project site). In general, the high volume of traffic destined to the Bay Bridge cannot be accommodated in the single-lane Bay Bridge on-ramp at the intersections of Harrison/Essex and Harrison/First. The resulting queue of vehicles on the main access routes to the freeway, including First, Essex and Harrison Streets, results in high levels of congestion on the lanes accommodating Bay Bridge-bound vehicles, with p.m. commute peak period queues frequently backing up on First Street to Market Street and northerly, on Harrison Street to The Embarcadero and on Harrison Street to Second Street and on Second Street north and south of Harrison Street.

It should be noted that the turning movement counts for the traffic analysis were conducted in July and August 2000. Beale Street underneath I-80/Bay Bridge was closed in September 2001, and at this time there

Source: LCW, EDAW, Inc.

Figure 39 - Transportation Study Area and Analysis Locations

is no formal proposal to officially and permanently close Beale Street. As a result, the intersection operations were conducted assuming that the roadway would be re-opened at some time in the future. The San Francisco County Transportation Authority travel demand model, which was used to determine future cumulative traffic volumes, also assumed that Beale Street would be re-opened in the future; therefore the 2020 cumulative analysis reflects an open Beale Street.

In May and June 2004, turning movement volume counts at several intersections in the vicinity of Beale Street were conducted as part of the transportation analysis for the *Rincon Hill Plan*.[4] Comparison of the 2000 traffic volumes to the 2004 traffic volumes indicate that traffic patterns in the area have changed somewhat, although it is difficult to determine the effect of Beale Street closure in relation to other changes to the area (i.e., the construction and occupancy of new residential and office buildings, displacement of off-street parking facilities, and the ongoing reconstruction of the I-80/Bay Bridge on- and off-ramps and connectors to the Transbay Terminal). Combined, these projects and developments have resulted in the redistribution of local traffic and traffic destined to and from I-80/Bay Bridge. Overall, it was found that there has been a redistribution of traffic in the area, including a reduction in traffic volumes along Beale Street and an increase in traffic volumes along Folsom Street between Beale and Spear Streets, First Street, Main Street and The Embarcadero. Level of service analysis at selected intersections indicates that current weekday p.m. peak hour conditions are similar to those using the 2000 traffic volumes. The redistribution of traffic due to the closure of Beale Street and other projects would not change the results of the intersection level of service analysis for this project.

TRANSIT

The project site is in an area served by public transit, with both local and regional service provided near the project site by the Muni, Bay Area Rapid Transit (BART), Caltrain, SamTrans, Golden Gate Transit and AC Transit. The project site is located within walking distance of the Transbay Terminal (about three blocks, or 1,500 feet, from the project site) and the Ferry Building (about nine blocks from the project site), both major transit connection locations, and four blocks from Market Street where the Market Street subway provides access to Muni Metro and BART. The Caltrain terminal is located at Fourth/Townsend, about a mile southwest of the project site. Local service is provided by the Muni bus and light rail lines. Muni operates seven bus lines and one light rail line in the vicinity of the project site, including several cross-town bus lines that also serve the Transbay Terminal, which is located approximately 1,500 feet from the project site. Service to and from the East Bay is provided by BART, AC Transit, and ferries; service to and from the North Bay is provided by Golden Gate Transit buses and ferries; service to and from the Peninsula and South Bay is provided by Caltrain, SamTrans, and BART. Muni's 12-Folsom line is the closest route to the project site, and there is a westbound stop at the intersection of Harrison/First (across from the project site), and an eastbound stop at the intersection of Folsom/Main (approximately 1,400 feet from the project site).

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4 Wilbur Smith Associates, *Rincon Hill Mixed Use District Transportation Study*, December 2003 and "Supplemental Transportation Analysis for Rincon Hill DEIR", September 20, 2004. This report and the supplement are on file and available for public review by appointment at the San Francisco Planning Department, 1660 Mission Street, Fifth Floor, as part of Case File No. 2000.1081E

Table 1
San Francisco General Plan Street Designations [1]

Street	Vehicular [2]	Configuration in Project Vicinity	Transit [3]	Pedestrian [4]	Bicycle [5]
Howard Street	- Major Arterial in CMP Network - MTS Street	4 lanes 2-way E of Fremont 1-way W of Fremont	Transit Preferential Street (Transit Important)	–	Citywide Bicycle Route No. 30
Folsom Street	- Major Arterial in CMP Network - MTS Street	4 lanes 2-way E of Main 1-way wb W of Main	–	Citywide Pedestrian Network* (between 2^{nd} and Embarcadero)	Citywide Bicycle Route No. 30
Harrison Street	- Major Arterial in CMP Network - MTS Street	4-lanes 2-way E of Third 1-way wb between Third and Tenth 2-way W of Tenth	Transit Preferential Street (Transit Important)	Neighborhood Commercial Street (between 4^{th} Street and 10^{th} Street)	–
Bryant Street	- Major Arterial in CMP Network - MTS Street	4-lanes 1-way eb W of Sterling 2-way E of Sterling	Transit Preferential Street (Transit Important)	Neighborhood Commercial Street	–
Main Street	- Major Arterial in CMP Network - MTS Street	3 lanes 2-way S of Folsom 1-way nb N of Folsom	Transit Preferential Street (Transit Oriented)	Neighborhood Network Connection Street[6] (between Market Street and Embarcadero)	–
Beale Street	- Major Arterial in CMP Network - MTS Street	2 lanes 1-way sb N of Bryant 2-way S of Bryant	Transit Preferential Street (Transit Oriented)	Neighborhood Network Connection Street [6] (between Market and Embarcadero)	–
Fremont Street	- Major Arterial in CMP Network - MTS Street	2 to 4 lanes 1-way nb N of Folsom 2-way S of Folsom	Transit Preferential Street (Transit Important)	Neighborhood Commercial Street	–
First Street	- Major Arterial in CMP Network - MTS Street	4 lanes 1-way sb	Transit Preferential Street (Transit Important)	Neighborhood Commercial Street	–
Second Street	- Major Arterial in CMP Network	4 lanes 2-way	Transit Preferential Street (Secondary Transit)	Neighborhood Commercial Street	Citywide Bicycle Route No. 11

Notes: W=west; E=east; S=south; N=north; wb=westbound; eb=eastbound; sb=southbound; nb=northbound; CMP=Congestion Management Plan; MTS=Metropolitan Transportation System.

[1] *San Francisco General Plan*, Transportation Element, current as of November 2004.

[2] Transportation Element, Maps 6-8, pgs. I.4.32-34.

[3] Transportation Element, Map 9, p. I.4.42.

[4] Transportation Element, Maps 11-12, pgs. I.4.55-56.

[5] Transportation Element, Map 13, p. I.4.59.

[6] General Plan Amendments pending as part of Transbay Redevelopment Plan per Joshua Switzky, Planner, City of San Francisco, telephone conversation with Jayni Allsep, EDAW, Inc., January 26, 2005.

The availability of Muni and regional transit service capacity was analyzed in terms of a series of screenlines. Four screenlines have been established in San Francisco to analyze potential impacts of projects on Muni service: Northeast, Northwest, Southwest and Southeast, with sub-corridors within each screenline. Three regional screenlines have been established around San Francisco to analyze potential impacts of projects on the regional transit carriers: East Bay (AC Transit, BART, ferries), North Bay (Golden Gate Transit buses and ferries) and South Bay (BART, Caltrain, SamTrans). The screenline analysis focuses on transit trips in the outbound direction (i.e., trips from greater downtown San Francisco to other parts of the City and the region) because the outbound direction reflects the peak direction of travel and patronage loads for transit carriers during the p.m. peak period.

As a means to determine the amount of available space within each screenline, capacity utilization is used, which relates the number of passengers per transit vehicle to the design capacity of the vehicle. In contrast to other operators, Muni has established a capacity utilization service standard that includes not only seated capacity, but also substantial numbers of standees, with standees representing somewhere between 30 percent to 80 percent of seated passengers, depending upon the specific transit vehicle configuration. Thus, Muni screenlines, and subcorridors within these screenlines, that are at or near capacity operate under noticeably crowded conditions with many standees. Because each screenline and most subcorridors include several Muni lines with multiple transit vehicles from each line, some individual transit vehicles operate at or above capacity and are extremely crowded during the p.m. peak hour at their most heavily used points (i.e., screenlines), while others operate under less crowded conditions. The extent of crowding is accentuated whenever target headways are not met through either missed runs and/or bunching in service. Thus, in common with other types of transportation operators such as roadway and parking facilities, transit operators may experience substantial problems in service delivery well short of established service capacity standards. For all regional transit operators, the capacity is based on the number of seated passengers per vehicle. All of the regional transit operators except BART have a one-hour load factor standard of 100 percent, which would indicate that all seats are full. BART has a one-hour load factor standard of 135 percent, which indicates that all seats are full and an additional 35 percent of the seating capacity are standees (i.e., 1.35 passengers per seat).

All Muni screenlines and sub-corridors are currently operating below the capacity utilization standard and have available capacity to accommodate additional passengers. All regional transit providers operate at less than their load factor standards, which indicates that seats are generally available.

PARKING

Parking conditions were determined for the weekday mid-day period (1:00 to 3:00 p.m.) and the weekday evening period (6:30 to 8:00 p.m.). There are 17 off-street public parking facilities in the study area, providing about 2,200 spaces. During the weekday mid-day period, the parking occupancy at these facilities ranges between 70 and 100 percent of capacity, with an average overall occupancy of about 90 percent of capacity. Most of the study parking facilities serve downtown employees and generally close sometime between 6:00 and 8:00 p.m. No parking facilities are attended 24 hours a day, but seven facilities allow evening and overnight parking during the weekday either through payment drop-box, monthly pass, or entry before 8:00 p.m. Combined, these facilities provide about 980 spaces (of the total 2,200 spaces) and operate at about 15 percent of capacity during the weekday evening period.

On-street parking is provided adjacent to the project site on Harrison Street and on the First Street stub. In general, on-street parking within the vicinity of the project site is comprised of metered and unmetered spaces, with one-hour and two-hour limits. In addition, there are several yellow curb loading zones located near businesses. The on-street parking is well-utilized throughout the day; however during the weekday mid-day period field visits, available parking spaces were found on the streets adjacent to the project block. During the evening, the occupancy is substantially lower due to the few night-time uses in the immediate project area.

The First Street stub south of Harrison Street allows for one-hour on-street parking between 7:00 a.m. and 6:00 p.m., and contains about 35 parallel curb parking spaces. During the weekday period field visits there was low occupancy; between one and four vehicles were observed parked in this location. Due to the use of this street for the Bay Bridge West Approach retrofit project, parking at this location is currently unavailable.

PEDESTRIANS

In the vicinity of the proposed project site, there are eight-foot-wide sidewalks on Harrison Street, and ten-foot-wide sidewalks on Fremont and First Streets, north of Harrison Street. The western portion of the south side of Harrison Street between Fremont and Beale Streets does not have a sidewalk (vehicles are parked directly adjacent to the fenced parking lot). There is no pedestrian crosswalk on the south side of Harrison Street crossing the First Street on-ramp. Pedestrians are instructed to use the north crosswalk. In the vicinity of the project site, pedestrian volumes are relatively light throughout the day. Field observations conducted in January 2003 and May 2003 indicated very few pedestrians on the project block, with the majority of the pedestrian trips related to the parking lot on the project site.

In general, the sidewalks and crosswalks adjacent to the proposed project site were observed to be operating under satisfactory conditions, with pedestrians moving at normal walking speeds and with freedom to pass other pedestrians. During the evening peak period, when there are vehicles on Harrison Street queued for access onto the First Street on-ramp, there are occasions when vehicles block the intersection of Harrison/Fremont and the pedestrian crosswalk, particularly the west crosswalk. "Do Not Block Intersection" signs have been installed at this intersection. Field observations indicated that vehicles occasionally enter the intersection when the signal turns green at Fremont Street but remains red at First Street for westbound traffic. Drivers at the intersection of Harrison/Fremont anticipate that the signal at First Street will turn green and they will be able to proceed, but since the parking control officer stationed at First/Harrison gives substantially more green time to First Street traffic than Harrison Street traffic, vehicles that enter the intersection when there is no downstream queuing space block the pedestrian crosswalk. Due to the very few pedestrians crossing the west crosswalk at this intersection, occasional blocking of the crosswalk by vehicles was not observed to substantially impede pedestrian travel. The existing *Rincon Hill Area Plan* also calls for an east-west pedestrian street from approximately Second Street to The Embarcadero in between Harrison and Folsom Streets;[5] some unconnected segments of this pedestrian street have been constructed.

BICYCLES

In the vicinity of the project site, Folsom Street, Howard Street, Second Street and The Embarcadero are designated Citywide Bicycle Routes. These routes are interconnected to the Citywide Bicycle Network and provide access to and from the study area from locations throughout the city. Route No. 30 runs eastbound along Folsom Street and westbound along Howard Street. On Howard Street, Route No. 30 is a Class II facility (signed route with bicycle lane) between The Embarcadero and Eleventh Street, with a wider curb lane provided between Spear and Third Streets. On Folsom Street (between Third Street and The Embarcadero) Route No. 30 is a Class II (signed route with bicycle lane) facility with a five-foot wide bicycle lane on the south side of the street. Route No. 11 runs in both directions along Second Street and is Class III (signed route only) between Market and King Streets. Route No. 5 runs in both directions along The Embarcadero and is a Class II facility.

During weekday mid-day and evening field surveys, few bicyclists were observed to be riding in the general vicinity of the project site, primarily along The Embarcadero and Folsom Street. In general, during both the weekday mid-day and evening periods, bicycle conditions were observed to be operating acceptably, with some minor conflicts between bicyclists, pedestrians and vehicles. Due to congestion on Essex Street from the on-ramp to the Bay Bridge, vehicles turning right from Folsom Street to Essex Street often use the Folsom Street bicycle lane as a second right-turn lane, which can affect bicycle circulation and result in motorized vehicle-bicycle conflicts

IMPACTS

Significance Criteria

The San Francisco Planning Department has established significance criteria to assess transportation impacts associated with a project.

Intersections

The operational impact on signalized intersections is considered significant when project-related traffic causes the intersection level of service to deteriorate from LOS D or better to LOS E or LOS F, or from LOS E to LOS F. A project may result in significant adverse impacts at intersections that

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[5] *Rincon Hill Area Plan* (1985) p. II.3.15

operate at LOS E or F under existing conditions depending on the magnitude of the project's contribution to the worsening of the average delay per vehicle. In addition, a project would have a significant adverse impact if it would cause major traffic hazards, or would contribute considerably to the cumulative traffic increases that would cause the deterioration in levels of service to unacceptable levels.

Transit

A project would have a significant effect on the environment if it would cause a substantial increase in transit demand that could not be accommodated by the available transit capacity, resulting in unacceptable levels of transit service; or cause a substantial increase in delays or operating costs such that significant adverse impacts in transit service levels could result. With the Muni and regional transit screenlines analyses, a project would have a significant effect on the transit provider if project-related transit trips would cause the capacity utilization standard to be exceeded during the weekday p.m. peak hour.

Parking

San Francisco does not consider parking supply as part of the permanent physical environment in San Francisco. Parking conditions are not static, as parking supply and demand varies day to night, day to day, month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

Parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social impacts need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact. (*CEQA Guidelines* § 15131(a).) The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Section 16.102 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the project site and then seek parking farther away if convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the vicinity of the proposed project would be minor, and the traffic assignments used in the transportation analysis, as well as in the associated air quality, noise and pedestrian safety analyses, reasonably addresses potential secondary effects.

Pedestrians

The project would have a significant effect on the environment if it would result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

Bicycles

A project would have a significant effect on the environment if it would create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas.

Loading

A project would have a significant effect on the environment if it would result in a loading demand during the peak hour of loading activities that could not be accommodated within proposed on-site loading supply or within on-street loading zones, and if it would create potentially hazardous traffic conditions.

Construction

Construction-related impacts generally would not be considered significant due to their temporary and limited nature.

Analysis Methodology

Project Travel Demand

To estimate the number of new person trips that would be generated by the project, trip generation rates were applied to each land use, and new person-trips were calculated on a weekday daily and p.m. peak-hour basis. These person-trips were distributed to eight geographical areas, including the four quadrants of San Francisco, the East Bay, the North Bay, the South Bay and outside the area, and were assigned to the various available travel modes (including auto, transit, walk and other modes). Both the distribution and the choice of travel mode (mode split) of the trips were based upon the type of land use and the purpose of the trip, plus the geographic distribution of residents and employment in the Bay Area and the availability of the various travel modes. The number of vehicle trips generated by the project was determined from the auto person trips and an average vehicle occupancy.

Person-trip generation for the proposed residential land use was based on rates compiled by the San Francisco Planning Department and published in the *Transportation Impact Analysis Guidelines for Environmental Review*, October 2002 (*SF Guidelines*). The trip distribution, mode split and average vehicle occupancy rates were obtained from the 1990 and 2000 U.S. Census journey-to-work data. It should be noted that the existing vehicles that use the public parking lot on the project site have not been subtracted from the existing traffic volumes, as it was assumed that the existing vehicles would park in other facilities in the vicinity of the proposed project.

The proposed project uses would generate approximately 6,732 person trips on a weekday daily basis and 1,120 person trips during the p.m. peak hour. Table 2, below, presents the person trips and vehicle trips generated by the project during the p.m. peak hour. Since the project would eliminate the office uses in the existing building on the project site (which was occupied when the traffic data were collected), the travel demand associated with these uses was estimated, and the existing trips were subtracted from the project-generated trips to calculate the resulting net new person and vehicle trips during the p.m. peak hour. During the weekday p.m. peak hour, the project would result in about 1,045 net new person trips and 373 net new vehicle trips. About 70 percent of the vehicle trips would be inbound to the project site, and 30 percent would be outbound from the project site.

Table 2
Project Trip Generation by Mode – Weekday P.M. Peak Hour

Land Use	Person-Trips				Vehicle Trips
	Auto	Transit	Walk/Other[1]	Total	
Proposed Project	435	223	462	1,120	391
Existing Uses	30	35	10	75	18
Net New Trips	**405**	**188**	**452**	**1,045**	**373**

Source: *SF Guidelines*, 2000 U.S. Census, LCW Consulting, December 2004

Note:

1 "Other" mode includes bicycles, motorcycles, and taxis.

Overall, approximately 82.6 percent of the person trips would travel within San Francisco, with 9 percent to and from the East Bay, 5.8 percent to and from the South Bay, 1.1 percent to and from the North Bay and 1.5 percent to and from outside the region.

Parking demand generated by the proposed project was based on the anticipated number and size of the residential units and the square footage of the retail uses. According to *SF Guidelines*, the proposed residential uses (720 units) would generate a demand for about 920 parking spaces, and the retail uses would generate a demand for about 17 spaces. Overall, the proposed project would generate a net new parking demand for about 937 spaces. Of the 937 parking spaces demand associated with the proposed development, 923 would be long-term spaces and 14 would be short-term spaces. The peak residential parking demand of 920 spaces would occur overnight, although a portion would also occur during the day.

Delivery/service-vehicle trip generation and demand for loading spaces for the project were estimated based on the methodology and assumptions provided in the *SF Guidelines.* In total, the project would generate about 28 daily delivery/service-vehicle trips. The project would have a demand for about two loading spaces during the peak hour of loading activities, and one space during the average hour of loading activities. It is anticipated that most of the service/delivery vehicles that would be generated by the project would consist of small trucks and vans, with most of the activity occurring between 10:00 a.m. and 1:00 p.m.

Existing-plus-Project Conditions

<u>Traffic Impacts</u>

The project would generate about 258 inbound and 115 outbound vehicle trips for a total of 373 vehicle trips during the weekday p.m. peak hour. These trips were distributed to the local and regional roadway network based on the origin/destination of each trip (from the trip distribution rates), the street directions and the project driveway on First Street. Under the Existing-plus-Project conditions, as shown on Table 3 below, all seven study intersections would continue to operate at the same service levels as under Existing conditions.

Table 3
Intersection Level of Service
Existing and Existing-plus-Project Conditions – Weekday PM Peak Hour

Location	Existing		Existing-plus-Project	
	Delay	LOS	Delay	LOS
Folsom/First	**>60**	**F**	**>60**	**F**
Folsom/Fremont	7.7	B	7.8	B
Harrison / Second	**44.9**	**E**	**58.4**	**E**
Harrison / Essex	**>60**	**F**	**>60**	**F**
Harrison/First	**>60**	**F**	**>60**	**F**
Harrison/Fremont	36.2	D	35.1	D
Harrison/The Embarcadero	15.1	C	15.7	C

Source: LCW Consulting, December 2004

<u>Notes:</u>

Delay presented in seconds per vehicle.

Intersections operating at LOS E or F are highlighted in bold.

To accommodate the proposed project's parking entrance and exit within the First Street stub, the project sponsor would request DPT to restripe the approach of First Street at Harrison Street to permit the movement into the First Street stub from the left-turn only lane, and the traffic impact analysis was conducted assuming that this restriping would be made. In addition, DPT has indicated that vehicles exiting the First Street stub/project driveway would be restricted to right turns only during the peak periods of travel on First Street.

Three intersections would continue to operate at acceptable levels of service of LOS D or better (Folsom/Fremont, Harrison/Fremont, and Harrison/The Embarcadero). The four study intersections that operate at LOS E or F under Existing conditions (Folsom/First, Harrison/Second, Harrison/Essex and Harrison/First) would continue to operate at these unacceptable levels. The unacceptable operating conditions at these intersections are due to the high volume of commuter vehicles that are approaching I-80/Bay Bridge. At the intersection of Harrison/First, the majority of project-generated vehicles would be in the left-most lane of the southbound approach that serves local traffic (and not traffic destined to the Bay Bridge). The traffic volumes in this lane are relatively low at this intersection, and this lane does not experience queued conditions. As such, trips generated by the proposed project would contribute to but not substantially worsen the operations at this intersection. It is noted that vehicles arriving to the site from eastbound and westbound Harrison Street during the p.m. peak period are likely to experience delays in accessing the project driveway, due to the long queues of Bay Bridge-bound vehicles occupying most or all lanes leading to the intersection of Harrison/First. This situation represents an inconvenience to drivers attempting to reach the project site. At the intersection of Harrison/Essex, the proposed project would not add vehicles to movements that currently operate at unacceptable levels. For these reasons, the impact of the project on the operating conditions at the intersections of Harrison/First and Harrison/Essex would be less-than-significant.

At the intersections of Harrison/Second and Folsom/First, the proposed project would add vehicles to critical movements that operate unsatisfactorily under Existing conditions and would continue to do so. At both of these intersections, the project-generated vehicles trips would travel through some movements that are queued for access onto the Bay Bridge. At the Harrison/Second intersection, the proposed project would add 38 vehicles to the northbound right turn (5.5 percent of total right turn vehicles), which is a critical movement that currently operates unsatisfactorily. At Folsom/First intersection, the proposed project would add 36 vehicles to the eastbound right turn (10.6 percent of the total right turn volumes), which is a critical movement that operates unsatisfactorily. The project's contribution of additional traffic to these two intersections, which already operate at unsatisfactory levels, would be considered substantial. For this reason, the project would result in significant traffic impacts at the intersections of Harrison/Second and Folsom/First.

On-ramps to the regional freeway network are typically congested during the evening commute hours. As a result of high traffic volumes and constrained on-ramp capacity, queues often form along the main approaches and long delays are experienced by drivers at nearby intersections. To improve weekday p.m. peak hour intersection operating conditions, additional capacity would be needed on I-80/U.S. 101, in addition to specific intersection improvements. Improvements at individual intersections (such as turn-pockets or signal timing changes) might improve localized congestion. However, since intersection operations are controlled by the operations of downstream intersections and the I-80/U.S. 101 on-ramps, these improvements would not substantially improve the overall intersection operating conditions. As a result of these constraints, mitigation measures for the Harrison/Second and Folsom/First intersections have not been identified, and the traffic impacts associated with the proposed project would be considered significant and unavoidable for these two intersections.

There are no eastbound Muni bus lines on Harrison Street directly adjacent to the project block (the 12-Folsom travels westbound on Harrison Street and eastbound on Folsom Street), and therefore project-generated vehicle trips turning right out of the proposed project site are not anticipated to adversely affect Muni bus movements in the vicinity of the project site. This impact is less than significant.

The proposed project's off-street loading area has been designed with sufficient area such that a truck could access the loading area directly from Harrison Street, and turn to position itself to exit directly onto Harrison Street. Trucks would not need to back into or out of the loading area, and as a result would not impede traffic flow on Harrison Street. This impact is less than significant.

Transit Impacts

The project would generate about 145 inbound and 43 outbound transit trips during the weekday p.m. peak hour. The outbound transit trips were assigned to the Muni and regional transit screenlines based on the destination of each trip and the existing distribution of trips within the screenlines. Of the 43 outbound trips, 22 trips would cross Muni screenlines, 7 trips would cross regional screenlines, and the remaining 14 trips would not cross any screenlines. Of the 7 regional transit trips during the weekday p.m. peak hour, 3 were assigned to the East Bay, 1 to the North Bay, and 3 to the South Bay. Under Existing-plus-Project conditions, the four Muni screenlines and the three regional transit screenlines would continue to operate within their respective capacity utilization and load factor standards. The new inbound transit trips generated to the project would not substantially affect transit service in the inbound direction.

In the immediate vicinity of the project site, the transit lines generally have available capacity during the weekday p.m. peak hour that would accommodate the inbound and outbound transit trips generated by the proposed project. In addition, it is anticipated that some people would walk the four blocks to and from Market Street to access Muni Metro and BART service at Montgomery Station and Market Street bus lines, or walk to the Muni Metro Folsom station at The Embarcadero (instead of taking a bus and transferring). For these reasons, the proposed project would not substantially affect transit service, and no significant transit impacts would occur.

Parking

The existing *Planning Code* requirements for the Rincon Hill Special Use District would require the proposed project to provide 720 independently-accessible parking spaces (one parking space per unit) for the proposed residential units and 2 independently-accessible spaces for the proposed retail use, for a total of 722 spaces. The proposed project would provide a total of 720 parking spaces in an attended garage, which would be equipped with mechanical car lifts. Since only up to 360 of the 720 parking spaces would be independently-accessible, the project would not meet the *Planning Code* requirement. The proposed project would eliminate 54 public parking spaces on the surface lot at the intersection of Harrison/Fremont, and all or most of the 35 on-street spaces within the First Street stub, for a total of up to 89 public parking spaces. It is assumed that the displaced parkers would find other parking facilities or on-street parking.

The proposed project would generate a long term parking demand for about 923 spaces (920-space residential demand and 3-space retail demand). The long term residential demand generally occurs during the evening and overnight hours. The long term residential parking demand of 920 spaces would not be accommodated within the parking supply of 720 parking spaces, which would result in a shortfall of 200 spaces. This shortfall could be accommodated on-street or in nearby off-street parking facilities that provide overnight parking.

During the weekday mid-day, the residential parking demand is estimated to be about 80 percent of the overnight parking demand, or about 736 spaces. In addition, there would be a parking demand of 17 spaces associated with the retail uses. It is anticipated that a portion of the 200-space overnight residential parking shortfall would remain parked on-street or in off-street facilities during the day. Since the proposed project would provide 720 parking spaces, there would be a shortfall of between 33 parking spaces (753-space midday demand minus the 720-space parking supply) and 217 parking spaces (937-space total demand minus the 720-space parking supply) during the mid-day period. Based on a proposed project shortfall of between 33 and 217 parking spaces, parking occupancy in the study area would increase from 91 percent to more than 100 percent. With parking facilities in the general area operating at 100 percent of capacity and considering the need to accommodate the existing 89 spaces displaced by the project, it would be difficult for drivers to find parking in the study area. As a result, drivers may park farther away or may switch to transit, carpool or use other forms of travel. Parking deficits are not considered to be a significant environmental effect.

It should be noted that the Planning Department is currently proposing an amended *Rincon Hill Plan*. In this amended Plan, the Rincon Hill Downtown Residential (DTR) District would include a maximum parking requirement of one space per unit, provided that all spaces in excess of one space per two units are tandem spaces or otherwise not conventionally independently-accessible. Should the *Planning Code* requirements be amended under the proposed *Rincon Hill Plan*, a maximum of 720 parking spaces would be permitted with up to 360 spaces independently-accessible. The proposed project would meet these proposed *Planning Code* requirements.

In order to promote the use of car-sharing by residents, the project sponsor proposes that up to five parking spaces on-site would be dedicated for use by City CarShare. For the above reasons, the impact on parking would be less than significant.

Pedestrian Impacts

Pedestrian trips generated by the proposed project would be expected to include walk trips to and from the residential uses, including but not limited to walk trips to and from the local and regional transit operators, and some walk trips to and from nearby parking facilities. Overall, the project would add about 640 net new pedestrian trips (188 trips to/from transit and 452 walk/other trips) to the surrounding streets during the weekday p.m. peak hour. These pedestrians would enter and exit the proposed project via the project's residential lobbies on Harrison Street and First Street, and the townhouses on Harrison and First Streets. It is anticipated that a majority of the new pedestrian trips during the weekday p.m. peak hour would be to and from Market Street, the Transbay Terminal area and The Embarcadero. These new pedestrian trips could be accommodated on the existing sidewalks and crosswalks adjacent to the project site and would not substantially affect the current pedestrian conditions along Fremont, Harrison or First Streets or at the intersection crosswalks. As these sidewalks are eight to ten feet wide and currently have low pedestrian activity, pedestrian conditions on sidewalks would continue to remain acceptable. In addition, the proposed project would incorporate a set-back on Harrison Street, which would widen the sidewalk width adjacent to the proposed project from eight feet under Existing conditions, to between 12 and 15 feet under Existing-plus-Project conditions. The *Draft Rincon Hill Plan* (November 2003 Plan and September 2004 Supplement), proposes specific streetscape concepts that would improve pedestrian conditions and local traffic flow without reducing traffic capacity. For Harrison Street, the Plan proposes to narrow the westbound lane from 18 to 12 feet, and add space to the south sidewalk. The proposed widened and landscaped sidewalks on Harrison Street connecting to the waterfront at The Embarcadero and streetscapes on First Street and Fremont Street could serve as the upper end of pedestrian corridors to the Financial District. The proposed project would be consistent with the provisions of the proposed *Rincon Hill Plan.*

Thus, the project-generated pedestrian trips would not cause significant impacts on pedestrian travel in the area, and would not result in significant environmental impacts.

During the p.m. peak hour, westbound traffic on Harrison Street destined to the Bay Bridge on-ramp at First Street occasionally blocks the west crosswalk at the intersection of Harrison/Fremont. Vehicle blockage also occurs at the intersection of Harrison/First. Project-generated pedestrian trips to and from the project may experience difficulty in crossing Harrison Street when the crosswalks are blocked. While the intersection currently has pedestrian signals and "Do Not Block Intersection" signs, DPT should consider providing additional signage or traffic control officers during the p.m. peak period to reduce pedestrian-vehicular conflict.

Bicycle Impacts

To meet the requirements of the San Francisco *Planning Code* Section 155, the City would require the project to provide 36 bicycle parking spaces for the 720 vehicle parking spaces. The proposed *Rincon Hill Plan* and Rincon Hill DTR District would require 1 bicycle parking space for every two units.

The project would include several proposed secured bicycle storage rooms that would accommodate about 360 bicycles, and would meet current and proposed *Planning Code* requirements.

The project site is within convenient bicycling distance of downtown San Francisco, the Financial District and major transit hubs (e.g., Ferry Building, Transbay Terminal and Caltrain) and area retail and recreational points such as the Ferry Building and the Embarcadero Center. As such, it is anticipated that a portion of the "other" trips generated by the proposed project would be bicycle trips, which would utilize the bicycle routes along Second Street, Howard Street, Folsom Street and The Embarcadero, and would likely use Harrison, Fremont and First Streets to access the bicycle routes. The project driveway on First Street and the loading area access on Harrison Street would not be located on the bicycle routes, and, therefore, bicycle routes and bicycle lane operations would not be affected by loading and parking activities. Although the proposed project would result in an increase in the number of vehicles in the vicinity of the project site, this increase would not be substantial enough to affect bicycle travel in the area, and would not result in significant environmental impacts

Loading Impacts

Planning Code Section 152 would require the project to provide three loading spaces; one space could be less than full-sized. The proposed project would provide an off-street loading area that would be accessible from Harrison Street, with four loading spaces, and would meet the existing *Planning Code* loading requirements. The proposed supply would be sufficient to accommodate the expected peak loading demand of two loading spaces.

The loading area has been designed with sufficient area such that a truck could access the loading area directly from Harrison Street and turn to position itself to exit directly onto Harrison Street. Trucks would not back into or out of the loading area, and as a result would not impede traffic flow on Harrison Street. It is anticipated that the loading area would be staffed 24-hours a day. Passenger loading/unloading would occur from the Harrison Street curb for the north tower, and from the First Street stub south of Harrison Street for the south tower. An entrance/exit would be provided at the First Street stub that would accommodate four vehicles. The lane would be 20 feet wide, which would also allow vehicles to bypass vehicles parked at the curb.

Under the amendments to the *Planning Code* requirements as a part of the proposed Rincon Hill DTR District effort, the project would be able to provide a maximum of four full-sized loading spaces, rather than the three loading spaces required by existing *Planning Code*. The proposed project would include four loading spaces and, thus, would meet both the existing *Planning Code* and proposed *Planning Code* requirements. The project is expected to result in a less-than-significant loading impact.

Construction Impacts

It is anticipated that construction of the project would take approximately 48 months. Construction-related activities would typically occur Monday through Friday from 7:00 a.m. to 3:30 p.m. It is anticipated that periodic work could occur earlier and later and on weekends, on an as-needed basis.

Construction staging would occur primarily within the site, on the First Street stub south of Harrison Street (in coordination with Caltrans), and from the adjacent sidewalk and curb parking lane on Harrison Street between First and Fremont Streets. It is anticipated that the sidewalk and curb parking lane along the proposed project frontage on Harrison Street would be closed throughout the construction duration, as would the First Street stub south of Harrison Street. Construction activities would displace about eight parking spaces on the south side of Harrison Street between First and Fremont Streets, and about 35 parking spaces within the First Street stub (all of which are currently displaced by Caltran's work on the Bay Bridge West Approach retrofit project). Pedestrians would be directed to use the north sidewalk on Harrison Street. Since there are no Muni bus stops along the project site frontage, it is not anticipated that any Muni bus stops would need to be relocated during construction of the proposed project.

If it is determined that temporary traffic lane closures on Harrison Street would be needed, the closures would be subject to review and approval by the Department of Public Works (DPW) and the Interdepartmental Staff Committee on Traffic and Transportation (ISCOTT). These agencies review sidewalk and lane closures to minimize effect on local traffic, including transit.

During the construction period, there would be a flow of construction-related trucks into and out of the site. It is anticipated that a majority of the construction-related truck traffic would use I-80/U.S. 101 and I-280 to access the project site from the East Bay and South Bay. The impact of construction truck traffic would be a temporary lessening of the capacities of local streets due to the slower movement and larger turning radii of trucks, which may temporarily increase delays for both vehicular and Muni operations for the duration of the construction period.

There would be between 20 and 150 construction workers at the project site during weekdays, depending on the phase. The trip distribution and mode split of the construction workers split are not currently known. However, it is anticipated that the addition of the worker-related vehicle or transit trips would not substantially affect transportation conditions, as the number of vehicle trips and transit trips would be low, and would not occur during the p.m. peak hour when the maximum use of the transportation system in the project vicinity occurs. In addition, construction workers who drive to the site would cause a temporary parking demand. Since the nearby parking facilities currently have some spaces available during the day, it is anticipated that construction workers could be accommodated without substantially affecting areawide parking conditions.

Construction activities of the project could overlap with the construction of other proposed developments in the area (if approved); notably the proposed developments at 375 Fremont, 385-399

Fremont Street and 325 Fremont Street (approved but not yet built). It should be noted that neither the 399 Fremont nor the 375 Fremont development could be built as towers under the proposed "Preferred Option" amendments to the *Rincon Hill Plan*. At most, only one of these developments would likely be constructed above a height of 85 feet, with the 82.5-foot Tower Separation Option, unless they are considered under the existing *Rincon Hill Plan*. The construction activities associated with these projects would affect access, traffic operations and pedestrian movements. The construction cycles of each development would differ, depending on location and scale. It is anticipated that the construction manager for each project would work with various departments of the City (DPT, Muni, the Fire Department, etc.) to develop a detailed and coordinated plan that would address construction vehicle routing, traffic control and pedestrian movement on specific streets in the construction area, including for the duration of any overlap in construction activities.

The construction schedule of the proposed project would overlap with the seismic retrofit of the Bay Bridge and its approaches. There would be about a one-year overlap between construction of the proposed project and the Bay Bridge retrofit work on the towers and superstructure. Work on the West Approach will also be conducted throughout the construction duration of the project, and is expected to be completed by the end of 2009.[6]

Ramp closures associated with the West Approach phase of the seismic retrofit project would affect access to and from the project, during both the project's construction and operation. However, no access streets to the ramps (e.g., First Street, Fremont Street) are anticipated to be closed as part of the West Approach construction work, and travel lanes would be maintained during the weekday commute periods. Overall, Bay Bridge construction activity is anticipated to be concentrated in the area adjacent to the Bay Bridge span and approach, and is not expected to substantially affect weekday commute traffic operating conditions in the vicinity of the proposed project. Construction-related traffic and circulation impacts would be temporary and would be less than significant for the reasons stated above.

2020 Cumulative Conditions

<u>Methodology</u>

Future year 2020 Cumulative traffic and transit conditions were based on the projections developed for the South of Market Area for the *300 Spear Street/201 Folsom Street Transportation Study*[7]. The San Francisco County Transportation Authority (SFCTA) countywide travel demand forecasting model (SFCTA Model) was used to develop the traffic and transit forecasts for cumulative development and growth through the year 2020 in the region, as well as to determine travel demand to and from the South of Market area. This approach results in a cumulative impacts assessment for year 2020 conditions, that takes into account both the future development expected in the South of Market

[6] Caltrans District 4 West Approach Home Page, http://www.dot.ca.gov/dist4/safer/ (November 1, 2004).

[7] Wilbur Smith Associates, *300 Spear Street/201 Folsom Street Transportation Study*, December 2003. This report is on file and available for public review by appointment at the San Francisco Planning Department, 1660 Mission Street, Fifth Floor, as part of Case File Nos. 2000.1073E and 2000.1090E.

Area, as well as the expected growth in housing and employment for the remainder of San Francisco and the nine-county Bay Area.

Two changes have been identified to the roadways within the study area that would affect local circulation and intersection operating conditions. These include:

- As planned in the *Alternatives to the Replacement of the Embarcadero Freeway and Terminal Separator Structure FEIS/FEIR*,[8] the Fremont Street off-ramp from westbound I-80 is currently being modified. The current off-ramp, which touches down on Fremont Street mid-block between Howard and Folsom Streets, will be reconfigured to establish a second leg of the off-ramp that will provide access to Folsom Street.

- Major transit improvements identified to occur by 2020 that would affect transit service in San Francisco are the Third Street Light Rail Project and the BART extension to the San Francisco Airport and Millbrae (service to the San Francisco Airport was initiated in June 2003).

Cumulative Traffic Impacts

Between 2000 and 2020 Cumulative conditions, weekday p.m. peak hour traffic volumes at the study intersections are anticipated to increase between 15 and 95 percent. Table 4 on page 118 presents the 2020 Cumulative weekday p.m. peak hour intersection operating conditions. Overall, five of the seven study intersections would operate at LOS E or F under 2020 Cumulative conditions, as compared to four intersections under Existing and Existing-plus-Project conditions. In general, the unacceptable operating conditions would occur along the primary access routes to the Bay Bridge, including First and Harrison Streets, and include the intersections of Folsom/First, Harrison/First, Harrison/Essex, Harrison/Second and Harrison/Fremont.

The project's contribution to the five study intersections that would operate at unacceptable LOS F during the weekday p.m. peak hour would range between 5.2 and 43.1 percent of the traffic growth at the intersections. The project trips would make a considerable contribution to the significant cumulative traffic impacts at the intersections of Folsom/First and Harrison/Second. Because operations of these and other intersections near the project site are controlled by the operations at the Bay Bridge and freeway on-ramps, and because existing intersections cannot be widened to increase capacity without demolishing existing occupied buildings, there are no feasible mitigation measures for these intersections. Therefore, the project's contribution to cumulative intersection LOS impacts would be significant and unavoidable.

[8] *Alternatives to Replacement of the Embarcadero Freeway and Terminal Separator Structure Final EIS/EIR*, September 1996 This report is on file and available for review by appointment at the San Francisco Planning Department, 1660 Mission Street, Fifth Floor as part of Case File Nos. 92.202E and 94.060E.

Cumulative Transit Impacts

Between Existing and 2020 Cumulative conditions, transit ridership demand is projected to increase by 22 percent at the four Muni screenlines combined, by 72 percent at the regional East Bay screenline, by 42 percent at the regional North Bay screenline, and by 233 percent at the regional South Bay screenline.

Under 2020 Cumulative conditions, three of the four Muni screenlines would operate at less than capacity (only the Southeast screenline would operate at capacity). Each regional transit carrier would continue to operate at less than its load factor standard, except BART to the South Bay.[9] The One Rincon project would contribute less than one percent to the cumulative Muni transit ridership and less than one percent to the cumulative regional transit ridership; thus, the project alone would not substantially affect the peak hour capacity utilization of each screenline. Therefore, the project would not have a significant environmental impact on transit under 2020 Cumulative conditions.

Table 4
Intersection Level of Service
Existing and 2020 Cumulative Conditions – Weekday PM Peak Hour

Location	Existing		2020 Cumulative (3)	
	Delay (1), (2)	LOS	Delay	LOS
Folsom/First	**>60**	**F**	**>60**	**F**
Folsom/Fremont	7.7	B	26.8	D
Harrison / Second	**44.9**	**E**	**>60**	**F**
Harrison / Essex	**>60**	**F**	**>60**	**F**
Harrison/First	**>60**	**F**	**>60**	**F**
Harrison/Fremont	36.2	D	**>60**	**F**
Harrison/Embarcadero	15.1	C	28.0	D

Source: LCW Consulting, December 2004

Notes:

(1) Delay presented in seconds per vehicle.

(2) Intersections operating at LOS E or F are highlighted in bold.

(3) It should be noted that in the Rincon Hill Draft EIR, September 24, 2004, the operating conditions at the intersection of Folsom/Beale are reported for conditions with the closure of Beale Street. The changes proposed with the *Rincon Hill Plan* would result in a significant impact at the intersection of Folsom/Beale, and the intersection LOS would change from LOS B under Existing conditions to LOS E under 2020 Baseline-plus-Project and 2020 Cumulative conditions. The proposed project would not result in an increase in traffic volume trips at this intersection during the PM peak hour, and as such would not affect the analysis results presented in the Rincon Hill DEIR, and would not result in any new significant project impacts.

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[9] BART staff has indicated that they would be able to lengthen the South Bay trains, if necessary, to accommodate future demand. Currently, two of the four lines have 10-car trains, one line has 9-car trains and one line has 8-car trains. With this change, the load factor would be within the BART standards.

F. AIR QUALITY

This section discusses the potential traffic-generated air quality impacts of the project and whether sensitive receptors would be subject to substantial pollutant concentrations.

SETTING

Ambient Air Quality Standards

National Ambient Air Quality Standards established by the U.S. Environmental Protection Agency (U.S. EPA) and the California Ambient Air Quality Standards established by the California Air Resources Board (CARB) define the criteria pollutants and target levels of pollutants for air quality planning. The State and Federal ambient air quality standards are listed in Table 5, page 120. These standards are intended to protect the public health and welfare with an adequate margin of safety.

They are designed to protect those segments of the public most susceptible to respiratory distress, known as sensitive receptors, such as asthmatics, the very young, the elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy people can tolerate occasional exposure to air pollution levels somewhat above ambient air quality standards before adverse health effects are observed. Periodically, the standards are reviewed and updated to reflect improved understanding of the health effects. As shown in Table 5, page 120, for most pollutants the State-level standards are more stringent than the national standards.

Air Quality Conditions

<u>Ambient Air Quality</u>

The Bay Area Air Quality Management District (BAAQMD) is the regional agency responsible for air quality management in the San Francisco Bay Area. It operates a regional monitoring network which measures the ambient concentrations of six criteria pollutants including ozone (O_3), carbon monoxide (CO), inhalable particulate matter (PM_{10}), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. The station used to characterize ambient air quality in San Francisco is located in the Potrero Hill neighborhood at 10 Arkansas Street.

Annual data summaries for San Francisco prepared by the BAAQMD for 1999, 2000, 2001 and 2002 and 2003 monitoring data gathered by the CARB are summarized in Table 6, page 122.

The data in Table 6 indicate the following:[1]

- Ozone concentrations in 1999, 2000, 2001, 2002 and 2003 at stations in San Francisco did not exceed the State 1-hour ozone standard or the Federal 1-hour or 8-hour ozone standards on any day.

[1] Bay Area Air Quality Management District, *Bay Area Pollution Summary – 1999 – 2003* http://www.baaqmd.gov/pio/aq_summaries/index.asp

Table 5
National and California Ambient Air Quality Standards

Pollutant	Averaging Time	NAAQS[a,c]	CAAQS[b,c]
Ozone (O_3) [d]	1-Hour 8-Hour	0.12 ppm 0.08 ppm	0.09 ppm NA
Carbon Monoxide (CO)	1-Hour 8-Hour	35 ppm 9.0 ppm	20 ppm 9.0 ppm
Nitrogen Dioxide (NO_2)	1-Hour Annual	NA 0.053 ppm	0.25 ppm NA
Sulfur Dioxide (SO_2)	1-Hour 24-Hour Annual	NA 0.14 ppm 0.03 ppm	0.25 ppm NA 0.04 ppm
Suspended Particulate Matter (PM_{10})	24-Hour Annual	150 µg/m³ 50 µg/m³	50 µg/m³ 20 µg/m³ [e]
Fine Particulate Matter ($PM_{2.5}$)[e]	24-Hour Annual	65 µg/m³ 15 µg/m³	NA 12 µg/m³ [f]
Sulfates (SO_4)	24-Hour	NA	25 µg/m³
Lead (Pb)	30-Day Average Calendar Quarter	NA 1.5 µg/m³	1.5 µg/m³ NA
Hydrogen Sulfide (HS)	1-Hour	NA	0.03 ppm

Source: CARB, 2003, www.arb.ca.gov.
[a] NAAQS = National Ambient Air Quality Standards.
[b] CAAQS = California Ambient Air Quality Standards.
[c] ppm = parts per million; µg/m³ = micrograms per cubic meter; NA = Not Applicable
[d] New Federal 8-hour ozone standards were promulgated by EPA on July 18, 1997. The Federal 1-hour ozone (O_3) standard continues to apply in areas that violated the standard. In April 2004, U. S. EPA determined that the Bay Area had an attainment record for the national 1-hour ozone standard. EPA must approve a redesignation request, currently under development, in order for the Bay Area to be redesignated to attainment status. In June 2004, the Bay Area was designated as a mariginal nonattainment area of the national 8-hour ozone standard.
[e] New Federal fine particulate matter standards were promulgated by EPA on July 18, 1997. In June 2002, CARB established new annual standards for PM2.5 and PM10. The 24-hour PM10 standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m3. The 24-hour PM2.5 standard is attained when the 3-year average of 98th percentiles is less than 65 µg/m3.
[f] On June 5, 2003, the Office of Administrative Law approved the amendments to the regulations for the State ambient air quality standards for particulate matter and sulfates. The regulations became effective July 5, 2003.

- At stations in San Francisco, maximum 1-hour and 8-hour CO concentrations between 1999 and 2003 have ranged from 3.5 to 5.5 parts per million (ppm) and 2.6 to 3.7 ppm, respectively. Over the last five years, the State and Federal ambient air quality standards for CO have not been exceeded anywhere in San Francisco or the Bay Area.

- PM_{10} concentrations between 1999 and 2003 exceeded the State 24-hour standard in 12 percent or fewer samples per year at stations in San Francisco. Samples are taken every 6 days. The State annual standard has been exceeded each year between 1999 and 2003 but has generally declined over the last two years with only one sample exceeding the standard in 2003 compared to 7 in 2001. The Federal annual standard has not been exceeded during the five-year period.

- NO_2, SO_2, sulfates, and lead were within allowable maximum concentrations in San Francisco and the Bay Area.

- On September 16, 1997, the U.S. EPA made final the revised standards for eight-hour ozone and $PM_{2.5}$ (particulate matter 2.5 microns or µg). In June 2002, CARB established new annual standards for $PM_{2.5}$ (annual average of 12 µg/m^3) and PM_{10} (annual average of 20 µg/m^3). The BAAQMD has recently initiated a three-year program to obtain sufficient ambient air monitoring data to support this new standard for ozone and initiated a similar three-year data collection program for $PM_{2.5}$. The most recent data available is for 2003, during which the annual average of $PM_{2.5}$ was 10 µg. During the other year for which $PM_{2.5}$ data is available, 2002, annual average was 13 µg/m^3 for $PM_{2.5}$. Until this data gathering is complete, no determination will be made about local air quality with respect to these two specific standards for $PM_{2.5}$. As noted, until data for three years is available, no attainment determination will be made.

Comparison of these data with those from other BAAQMD monitoring stations in the San Francisco Bay Area Air Basin indicates that San Francisco's air quality is among the least degraded of all developed portions of the Bay Area, primarily because San Francisco's prevailing winds tend to blow from the Pacific Ocean, transporting locally generated air pollution to elsewhere in the region and State.

The U.S. EPA designates the Bay Area as a whole an "unclassified (moderate) nonattainment area" for ozone, because of recent violations of the national ozone 1-hour standard. Because no violations of the CO standards have occurred in the region in recent years, the U.S. EPA designates the Bay Area as a "maintenance area" for CO. Other pollutants currently meet national standards. For State-level air quality planning purposes, the Bay Area is classified by the CARB as a serious nonattainment area for ozone, and a nonattainment area for PM_{10}.

Diesel Exhaust

The U.S. EPA has conducted an extensive evaluation of the cancer and non-cancer health effects of diesel exhaust and issued final rules on January 18, 2001, to tighten emission standards for diesel heavy-duty truck engines. The new EPA standards, to be fully implemented in 2007, will require both cleaner-running heavy-duty diesel engines in trucks and buses and production of low-sulfur diesel fuel that will be compatible with the new engines. The new regulations will reduce not only particulate emissions from heavy-duty vehicles but also emissions of nitrogen oxides, carbon monoxide, and the ozone precursors nitrogen dioxide and reactive organic gases. EPA estimates that each new truck and bus built according to the new standards will be 90 percent cleaner than current models.[2]

[2] U.S. EPA, Office of Transportation and Air Quality, "Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements," Regulatory Announcement EPA420-F-00-057, December 2000. Viewed on the internet at: http://www.epa.gov/otaq/regs/hd2007/frm/f00057.pdf, January 28, 2004.

Table 6
San Francisco Air Pollution Summary Data 1999-2003

	Ozone							Carbon Monoxide			Nitrogen Dioxide			Sulfur Dioxide			PM10				PM 2.5				
Year	Max 1-hr	Nat days	Cal days	3 yr. Avg	Max 8-hr	Nat days	3 yr. Avg.	Max 1-hr	Max 8-hr	Nat/Cal days	Max 1-hr	Ann. Avg.	Nat/Cal days	Max 24-hr	Ann. Avg.	Nat/Cal days	Ann. Avg.	Max 24-hr	Nat days	Cal days	Max 24-hr	Nat days	3 yr. Avg.	Ann. Avg.	3 yr. Avg.
1999	8	0	0	0	6	0	4.5	5.4	3.7	0	10	2.1	0	7	2	0	26	78	0	6	na	na	na	na	na
2000	6	0	0	0	4	0	4.4	5.5	3.2	0	7	2	0	8	2.4	0	24	63	0	2	na	na	na	na	na
2001	8	0	0	0	5	0	4.6	4	3.3	0	7	1.9	0	7	2.1	0	26	67	0	7	na	na	na	na	na
2002	5	0	0	0	5	0	4.4	3.5	2.6	0	8	1.9	0	6	1.9	0	25	74	0	2	70	4	48	13	12
2003	9	0	0	0	6	0	4.8	3.6	2.8	0	7	1.8	0	7	2.2	0	23	52	0	1	42	0	47	10	12

The terms "Cal days" and "Nat days" indicate the number of days that air quality measurements exceeded State and Federal air quality criteria.

Source: Bay Area Air Quality Management District, *Bay Area Pollution Summary - 1999 - 2002*, http://www.baaqmd.gov/pio/aq_summaries.asp

In 1998, California Air Resources Board (ARB) identified diesel particulate matter as a toxic air contaminant based on research indicating that long-term exposure to diesel particulate can increase the risk of a person developing cancer. ARB estimates that 70 percent of the known statewide cancer risk from toxic air contaminants (also known as "air toxics") in outdoor is attributable to diesel particulate.[3]

Because the vast majority of diesel exhaust particles are very small by weight (approximately 94 percent of their combined mass consists of particles less than 2.5 micrometers in diameter), both the particles and their coating of air toxics can be inhaled into the lungs. Diesel particulate cannot be directly monitored by measuring ambient air quality. However, estimates of cancer risk resulting from diesel PM exposure can be based on concentration estimates made using indirect methods (e.g., derivation from ambient measurements of a surrogate compound). ARB estimates that, in the San Francisco Bay Area, the lifetime cancer risk due to exposure to air toxics (i.e., the number of additional cases of cancer above the number of cases resulting from other causes) was approximately 630 per million people in 2003; of this total, 480 in one million cases were attributable to diesel particulate.[4] For comparison, the cancer risk from diesel particulate is estimated at 720 in one million in the South Coast Air Basin,[5] which covers much of the Los Angeles area, while statewide, ARB places the diesel risk at 540 in one million.[6] The health risk due to diesel particulate declined substantially (40 percent statewide; 36 percent in the Bay Area) between 1990 and 2000, and ARB projects further declines in the future due to cleaner vehicles and low-sulfur diesel fuel. With implementation of ARB's *Diesel Risk Reduction Plan*,[7] the board estimates the cancer risk from diesel particulate will drop statewide by approximately 85 percent from 2000 to 2020.

Local Air Emissions Sources

Mobile source, traffic-related emissions occur throughout the downtown area and around the project site; most notable are the heavy volumes of traffic along the Bay Bridge connector routes and the Transbay Transit Terminal ramps. In the immediate vicinity these include the First Sreet on-ramp, the Harrison off-ramp and the Bay Bridge West Approach. Emissions due to traffic congestion dominate the localized air quality in the vicinity of the project. Existing emission sources on the

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3 CARB, The California Almanac of Emissions and Air Quality, 2005 Edition, p. 221. Available on the internet at: http://www.arb.ca.gov/aqd/almanac/almanac05/almanac2005all.pdf. Viewed January 25, 2005.

4 CARB, The California Almanac of Emissions and Air Quality, 2005 Edition (see footnote 3), p. 237. The diesel particulate risk is estimated as of 2000; for other air toxics, the risk is estimated as of 2003. These risk estimates are for exposure to ambient air, based on annual average concentrations of air toxics and weighted by population, over an estimated 70-year lifetime. The risk is likely to differ from location to location within the Bay Area.

5 CARB, The California Almanac of Emissions and Air Quality, 2005 Edition (see footnote 3), p. 228.

6 These calculated average cancer risk values from ambient air exposure in the Bay Area can be compared against the lifetime probability of being diagnosed with cancer in the United States, from all causes, which is greater 40 percent, or greater than 400,000 in one million (National Cancer Institute, "Surveillance, Epidemiology, and End Results (SEER) Cancer Statistics Review, 1975-2001, Table I-15: Lifetime Risk (Percent) of Being Diagnosed with Cancer by Site, Race and Sex, 12 SEER Areas, 1999-2001." Available on the internet at: http://seer.cancer.gov/csr/1975_2001/results_single/sect_01_table.15.pdf. Accessed April 20, 2004.

7 ARB, *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, October 2002; available on the internet at: http://www.arb.ca.gov/diesel/documents/rrpFinal.pdf. Accessed January 20, 2005.

project site include small stationary sources for the office uses (e.g., water heating or ventilation equipment) as well as automobile exhaust from the site's parking garage.

Sensitive Receptors

Sensitive receptors are members of the public most susceptible to respiratory distress; sensitive receptors include asthmatics, the very young, the elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise.

IMPACTS

Significance Criteria

A project would have a significant effect on the environment with respect to air quality if it would violate any ambient air quality standard or contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The BAAQMD recommends evaluating projects using the following significance thresholds:[8] (1) the project impact would be considered significant if the project would cause operation-related emissions equal to or exceeding an established threshold of 80 pounds per day of reactive organic gasses (ROG), NOx, or PM_{10}, or caused CO concentrations to exceed the ambient standards or more than 550 pounds per day of emissions; (2) the project would expose sensitive receptors (including residential areas) or the general public to substantial levels of toxic air contaminants, resulting in the probability of contracting cancer for the Maximally Exposed Individual (MEI) in excess of 10 in one million; and (3) the project impacts would also be considered to have a significant contribution to cumulative regional air quality effects if the project impacts would exceed these standards. If project air quality impacts would not exceed the BAAQMD thresholds, the project could still contribute to significant cumulative air quality impacts if the project is found to be inconsistent with the local general plan, which is part of the basis for regional air quality attainment plans.

Methodology

Regional emissions of ozone precursors (ROG and NOx) and PM_{10} caused by project-related traffic and minor emissions from project-related energy use were calculated using the URBEMIS2002 computer model recommended by the BAAQMD and CARB. Daily emissions of criteria pollutants from project-related traffic in 2003 and 2020 were estimated based on daily vehicle trips as estimated by the project's transportation analysis. The model combines information on trip generation with vehicular emissions data specific to different types of trips in the Bay Area (home-to-work, work-other, etc.) from the EMFAC2002 model to estimate the project's contribution to regionwide daily emissions.

The potential for project-related traffic to cause localized CO violations near congested intersections was analyzed with a screening method prescribed by the BAAQMD. This screening method

[8] BAAQMD, *BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plans, 1999.*

considers "worst-case" traffic and air quality conditions at the most heavily-impacted intersections. The worst-case conditions include placing receptors in locations that yield maximum exposure (e.g., along sidewalks adjacent to congested traffic) during peak traffic hours.

The BAAQMD recommends coordinating land uses as a means of preventing exposure of sensitive receptors to substantial pollutant concentrations. In accordance with CEQA Guidelines Appendix G, conflict associated with sensitive receptors such as schools and sources of hazardous emissions are evaluated typically if they are located less than one-quarter mile apart. According to ARB's Hotspot Program, the nearest source of toxic air contaminants, Time Warner Telecom located at 501 2nd Street, is more than one quarter of a mile away from the project site.[9] Because the surrounding land uses, such as parking lots, offices, and residences, are not sources of toxic air contaminants, other than those that would be emitted by traffic throughout the downtown area and on the Bay Bridge West Approach (traffic emissions are discussed above and below), and because the project would not be a source of toxic air contaminants and, thus, would not locate any new sources of toxic air contaminants near sensitive land uses (e.g., residences, schools, day care centers), the project would not expose offsite sensitive receptors to substantial pollutant concentrations.

To evaluate the potential for adverse health consequences from exposure of onsite residents to diesel particulate generated on the Bay Bridge West Approach, screening-level modeling was performed for development included in the proposed amendments to the *Rincon Hill Plan*, such as the project. The daily two-way traffic volume on the Bay Bridge consists of approximately 284,000 vehicular trips, although the heavy-duty truck volume, as a percentage of total volume, is relatively low, at approximately 2.5 percent, or some 7,100 trucks. The modeling estimated the incremental lifetime (70-year) cancer risk from diesel particulate matter emissions from trucks on the Bay Bridge West Approach, at a distance of 20 meters (65 feet) from the centerline of the Bay Bridge West Approach to the nearest residential space. The model assumes typical atmospheric stability. Because emission rates are expected to continue to decline over the 70-year exposure period due to new regulations limiting emission rates that will take effect over the next several years, two sets of results were calculated using 2006 and 2020 emission rates.

It is noted that these calculations overstate the cancer risk, since the following five variables used in the calculations were estimated on conservative bases: (1) the calculation assumes 65 feet of separation between the roadway centerline and the nearest receptor, whereas the nearest residential space on the project site would be approximately 75 feet from the Bay Bridge West Approach centerline; (2) floors above and below the level nearest to the Bay Bridge West Approach and those facing away from the Bay Bridge West Approach (e.g., residential units facing north toward Harrison Street) would have more separation from the Bay Bridge West Approach than the 65 feet assumed in the modeling; (3) the modeling results represent a hypothetical individual exposed to ambient air at an outdoor location over the 70-year period, which inherently overstates the potential effect, given that indoor air quality (while it may have its own pollutants deriving from building materials) typically

[9] Air Resources Board Air Toxics "Hot Spots" Program (http://www.arb.ca.gov/ei/disclaim.htm)

has lower levels of particulates due to the filtration effects of heating and ventilation systems[10]; (4) if a person were exposed to the same pollutant concentrations for a shorter duration, the probability of contracting cancer would be reduced accordingly; and (5) the screening model is inherently conservative in that it does not take into account site-specific topography or wind conditions.

The fact that prevailing winds tend to be from the west and northwest and thus serve to drive pollutants from the Bay Bridge away from the closest residential developments along Harrison Street and towards the Bay—means that the modeling results are likely higher than the actual risk. The model also assumes dispersion at ground elevation, whereas the dispersion would take place on the elevated bridge deck where the above-ground open structure allows for additional dispersion. Thus, the result would be concentrations at particular receptors being lower than the predicted results.[11] It should also be noted that it is not possible to know what would be the background level of diesel particulate matter. As noted, ARB estimates the background risk of exposure to diesel particulates for the entire Bay Area to be 480 in a million. The Rincon Hill area is generally upwind of most of the sources that contribute to the regional background risk. Therefore one would expect background levels at Rincon Hill to be less than the reported Bay Area average.

An indoor air quality professional was consulted to ensure that the building is designed to meet indoor air quality standards of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). Among other design criteria, the consultant selected appropriate air handler units for the project, which would incorporate a filtered ventilation system. All fresh air requirements for the units would be achieved through the filtered ventilation system without the need for unfiltered windows to be opened. This would reduce the exposure to diesel particulate matter emissions.

Project Effects

Regional Impacts

Regional emissions associated with the project are presented in Table 7, page 127. This table indicates that project-related daily emissions would not exceed the BAAQMD significance threshold for each of the pollutants analyzed. All emissions would be below the threshold of significance assuming full project development in 2005, and the project would be below the thresholds by a wide margin by the 2020 horizon year. The 2020 results are lower than those shown for 2005 because the mix of vehicles in use in 2020 is assumed to include fewer high-emission, older vehicles. As shown

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[10] ARB, in its *Risk Reduction Plan*, states indoor cancer risk from diesel particulate as being about one-third less than the risk from outdoor ambient air (*Risk Reduction Plan*, p. 15). Therefore indoor concentration would be much less than calculated outdoor concentrations. ARB, *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, October 2002; available on the internet at: http://www.arb.ca.gov/diesel/documents/rrpFinal.pdf. Accessed January 20, 2005.

[11] Michael Nikolaou, Associate Professor of Chemical Engineering, Texas Transportation Institute. *Traffic Air Pollution Effects of Elevated, Depressed, and At-Grade Level Freeways In Texas.* <http://www.chee.uh.edu/faculty/nikolaou/TTIFinalReport.pdf> Accessed January 20, 2005.

below in Table 7, project-related increases in air emissions would have a less-than-significant impact on regional air quality.

Table 7
Project-Related Regional Emissions

Scenario	Pollutant (pounds per day)			
	ROG	NO_x	CO	PM_{10}
2005	33.3	29.3	311.1	24.7
2020	11.8	7.4	85.2	21.5
BAAQMD Thresholds[1]	80	80	550[2]	80
Exceeds Thresholds?	No	No	No	No

Source: Rimpo and Associates, et al., *URBEMIS2002 v. 7.4.2*, 2002.
ROG = reactive organic gases; NOx = nitrogen oxides; CO = carbon monoxide; PM_{10} = suspended particulate matter, 10 microns in diameter.
[1] From BAAQMD, *CEQA Guidelines*, p. 16.
[2] Requires Micro-scale CO analysis if exceeded.

Localized Impacts

In addition to the regional contribution to the total pollution burden, project-related traffic generated by the development project could result in localized "hot spots" or areas with high concentrations of CO emissions around stagnation points such as major intersections and heavily traveled and congested roadways. Traffic from the project could add more vehicles as well as cause existing non-project traffic to travel at slower, less efficient travel speeds.

The BAAQMD recommends that a microscale air quality analysis be performed if any of the following three criteria are met: (1) daily project-related CO emissions are greater than 550 pounds/day; (2) project-related traffic causes deterioration of intersection level-of-service (LOS) to LOS D, E, or F; or (3) project-related traffic increases on any roadway link of 100 vehicles or more per day cause a 10 percent or greater increase in volume on that link.[12]

A microscale screening analysis was completed for the development project and 2020 cumulative future conditions to determine whether any of the above criteria would be met. Although emissions would not exceed the CO criterion as shown in Table 7, above, intersections would exceed the congested levels of service during critical periods, therefore meeting criterion 2 and requiring a quantitative microscale analysis. Since all study intersections would be analyzed quantitatively, criterion 3 is not further considered.

[12] BAAQMD, *BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plans*, 1999.

The microscale impact analysis used CO analysis procedures in the *BAAQMD CEQA Guidelines*.[13] The analysis estimated hourly CO concentrations for all intersections projected to operate at LOS D, E, or F during the p.m. peak hour under existing or future conditions. The results of the analysis are shown in Table 8, page 128. This table indicates that the State and Federal one-hour and eight-hour ambient standards for CO are not currently violated during worst-case atmospheric conditions (CO concentrations are typically their greatest during wintertime when temperatures and wind speeds are low) and would not be violated with the addition of the project. Maximum one-hour microscale CO exposure would be 6.4 ppm under Existing-plus-Project conditions, assuming the project was built and occupied. Maximum eight-hour microscale CO exposure would be 4.5 ppm under Existing-plus-Project conditions Such exposure levels would not exceed the most stringent one-hour CO standard of 20 ppm or the eight-hour standard of 9 ppm. The project's maximum one-hour exposure of 6.4 ppm and maximum eight-hour exposure of 4.5 ppm do not exceed the most stringent State or Federal one-hour or eight hour CO standard of 20 ppm and 9.0 ppm. Therefore, project-related emissions would have a less-than-significant impact on local air quality.

Table 8
CO Concentrations in Parts Per Million (ppm)

Intersection	Existing (1-Hour/8-Hour)	Existing + Project (1-Hour/8-Hour)	2020 Cumulative* (1-Hour/8-Hour)
Folsom Street/1st Street	5.7/4.0	5.7/4.0	5.6/3.9
Folsom Street/Fremont Street	--	--	5.6/3.9
Harrison Street/2nd Street	5.8/4.1	5.8/4.1	5.7/4.0
Harrison Street/Essex Street	6.0/4.2	6.0/4.2	5.8/4.1
Harrison Street/1st Street	5.8/4.1	5.8/4.1	5.7/4.0
Harrison Street/Fremont Street	6.3/4.4	6.4/4.5	6.3/4.4
Harrison Street/The Embarcadero	--	--	6.0/4.2
State/Federal One-Hour Standard (ppm)	20/35	20/35	20/35
State/Federal Eight-Hour Standard (ppm)	9/9	9/9	9/9
Exceeds Thresholds?	No	No	No
Background Concentration (Included in predicted concentrations)	9	9	9

*2020 Cumulative scenario for the project differs from the cumulative scenario in the *Rincon Hill Plan DEIR* (September 25, 2004) in that the *Rincon Hill Plan DEIR* assumes a different street configuration for Beale Street. Under either street configuration, the CO concentrations at study intersections would not exceed the thresholds.
Source: EDAW, Inc., 2004.

The project would locate residents, who would be sensitive receptors, approximately 75 feet from the centerline of the heavily traveled Bay Bridge West Approach. Although traffic volumes on the Bay Bridge West Approach would be greater than those at the individual intersections analyzed above, the speed at which higher volumes of traffic would travel would result in lesser concentrations of

[13] BAAQMD, *BAAQMD CEQA Guidelines, "Step-By-Step Procedures for CO Analysis,"* 1999, page 40.

carbon monoxide per mile traveled. In addition, greater dispersion of carbon monoxide would take place on the elevated bridge deck, where the above-ground open structure allows for more dispersion than at ground level. With the anticipated continuing effect of ongoing state and federal vehicle emissions reductions programs, which are expected to result in a continuing decline in carbon monoxide emissions, it is not anticipated that local concentrations of carbon monoxide from Bay Bridge West Approach traffic would adversely affect residential receptors on the project site.

Toxic Air Emissions Impacts

Regarding potential exposure of project site residents to diesel particulate emanating from heavy-duty trucks and buses on the Bay Bridge, ARB's *Draft Air Quality and Land Use Handbook* notes that air pollutant concentrations "can be significantly higher within 500 feet of freeways or other busy traffic corridors, but begin to return to around background levels within around 1000 feet." The project would locate residents, who would be sensitive receptors, approximately 75 feet from the centerline of the heavily traveled Bay Bridge West Approach.

The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. Thus, the risk estimated for a maximally exposed individual is higher if a fixed exposure occurs over a longer period of time. According to the State's Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project.[14] The modeling conducted for the proposed amendments to the *Rincon Hill Plan* assumed exposure over the 70 years at a steady emission rate, whereas the actual emission rate will continue to decline due to new regulations limiting emission rates that will take effect over the next several years. Calculated at 2006 emissions rates, the estimated incremental lifetime (70-year) cancer risk from diesel particulate matter emissions would be approximately 27 in one million. However, this exposure rate would last for less than 14 years, or approximately 20 percent of the total 70-year exposure period. The same calculation based on 2020 emissions rate reveals a lifetime incremental cancer risk of approximately 9 in one million, which is below BAAQMD's threshold. Beyond 2020, the incremental cancer risk would continue to decline. Since over 80 percent of the exposure period would have incremental cancer risk below the threshold, the actual lifetime incremental cancer risk would also be below the BAAQMD threshold. Based on the above, the proposed project would result in a less-than-significant air toxic emissions impact on project site residents.

14 Salinas, Julio. Staff Toxicologist. Office of Health Hazard Assessment, Sacramento, CA. August 3, 2004-telephone conversation with Kurt Legleiter of EDAW regarding exposure period for determining heath risk.

Cumulative Impacts

The BAAQMD applies the regional thresholds for ROG, NOx, and PM_{10} to the cumulative air quality analysis (see Significance Criteria, above). Because the project would not exceed these thresholds in the future 2020 scenario, as shown above in Table 8, the project would not be considered to have a significant impact on regional air quality conditions in the cumulative context.

However, as specified in the Significance Criteria, although regional emissions would not exceed the BAAQMD thresholds, cumulative air quality impacts could still result if the project were determined to be inconsistent with the local general plan. The existing *Rincon Hill Area Plan*, an element of the San Francisco *General Plan*, calls for development of the Rincon Hill neighborhood, including the project site, with high-density residential buildings. The project would therefore be generally consistent with the *Rincon Hill Area Plan's* policies. As discussed in Chapter III.A, Land Use, the Planning Department has proposed a new draft *Rincon Hill Plan* and DTR district. The project has been designed to be specifically consistent with the proposed Plan and DTR. As such, from a land use standpoint, the project would be consistent with the *General Plan*. Therefore, the project-induced emissions would not be substantial, and project-related emissions would be consistent with the projections used in current air quality management plans.

When traffic from the development project is considered together with traffic increases associated with 2020 cumulative development (due to growth in the South of Market area and the rest of the City and region), cumulative increases in CO emissions would occur at nearby intersections. Table 8, page 128, indicates that maximum hourly exposures would not exceed state and federal one- and eight-hour ambient standards. Therefore, cumulative emissions, including those from the project, would have a less-than-significant contribution to CO levels at study intersections.

While traffic volume on the Bay Bridge West Approach are expected to increase given additional trips generated by new development in the region, the emission rates of CO and diesel exhaust would decrease due to new regulations limiting emission rates that will take effect over the next several years. As described above, the incremental exposure of project site residents to emissions from the Bay Bridge West Approach would be less than significant over the 70-year life-time exposure measurement period.

G. HISTORIC ARCHITECTURAL RESOURCES

This section discusses project impacts to historic architectural resources. The cultural resources impacts related to archaeological resources were found to be less than significant in the Initial Study (Appendix A), and therefore, are not analyzed in this EIR. The assessment analyzes whether the project site is an historical architectural resource or contains historic architectural resources. As the site was found to contain a historic resource, an evaluation is made as to the extent the project would cause a substantial adverse change to the resources. Cumulative effects are also discussed.

A portion of the project site is occupied by the Bank of America building complex, including an office building, clock tower, and parking garage. This building complex was formerly known as the Union Oil Company Building.[1] An historic resource evaluation (HRE), prepared by an independent consultant evaluates the Union Oil Company Building for its historic significance.[2] The HRE, in coordination with Planning Department preservation technical specialist staff review, forms the basis for the architectural and historic discussion in this EIR.

SETTING

This section describes the history of the site and its vicinity, as well as the architecture and history of buildings on the site.

History of Rincon Hill

Prior to the historic era, the city now known as San Francisco was inhabited by the Ohlone band of Indians. The closest known Ohlone village to the project site was about two-and-a-half miles away. Records at the Northwest Information Center indicate that no prehistoric archaeological sites have been discovered in the vicinity of Rincon Hill. Grading, filling, and blasting operations undertaken during the historic period have severely disturbed the landforms and soils, making the discovery of prehistoric artifacts extremely unlikely.

The first recorded structure on Rincon Hill was erected in 1846. As part of an overall reinforcement of San Francisco Bay, the U.S. Army designated Rincon Hill a military reserve and installed a battery armed with 32-pound cannons on the summit. Following the Gold Rush between 1848 and 1852, San Francisco experienced population pressure, which pushed dwellings away from Portsmouth square to outlying areas of hills or the sandy blocks south of Market. An 1856 photograph of Rincon Hill illustrates a dense network of dwellings and structures creeping up the northern and eastern slopes of the hill.

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[1] Unless otherwise stated, use of the name "Union Oil Company Building" throughout the EIR refers to the entire complex of structures on the site.

[2] Page & Turnbull, *The Union Oil Company Building, 425 First Street, San Francisco, California, Historic Resource Evaluation*, February 18, 2004. The HRE is on file with the Planning Department, 1660 Mission Street, San Francisco, and is available by appointment for public review as part of the project file.

The warm climate, good views, and proximity to downtown prompted wealthy San Franciscans to build large homes on the hill's crest. Developers also built several row house enclaves for upper-middle-class families. The value of the hill as a premier residential site began to tarnish following construction of the Second Street Cut (1869) which improved communication between downtown and the wharves of Steamboat Point, as well as the encroaching industry from Tar Flat. In 1906, the fire that followed the great earthquake consumed what remained of Rincon Hill's mansions.

The post-1906-fire development of the block with "cheap shacks" was in marked contrast to the middle- and upper-class homes built there just over a half-century earlier. These shacks would have constituted the lowest standard of housing in San Francisco, just one block from what was once the most fashionable block on the hill. The shacks were removed in the 1930's. If any such shacks were built on the project site, their remains are unlikely to have survived (see Initial Study Addendum).

The Existing Bank of America Building Complex (Former Union Oil Company Building)

The Union Oil Company Building was designed in 1940 by architect Lewis Hobart and constructed in 1940-41 by MacDonald & Kahn (see Figures 40 through 51, pages 134 - 142). Lewis P. Hobart, founding principal of one of San Francisco's most prominent corporate architecture firms to practice in San Francisco between the 1906 Earthquake and the Second World War, designed numerous San Francisco office buildings, residences, and civic buildings of lasting significance, such as Grace Cathedral, the California Academy of Sciences, the Methodist Temple and Hotel, as well as scores of downtown buildings and suburban villas. Completed four years prior to his retirement, the Union Oil Company Building was the last known major project executed by Hobart, and is one of a limited number of major transitional Streamline Moderne/International Style buildings constructed in San Francisco.

Throughout the early 1940s, the Union Oil Company acquired several adjacent lots but did not build, apparently as a result of wartime limitations on private construction activity. In 1953, architect Ralph N. Kerr of Oakland was retained to design several major additions in a compatible manner to Hobart's original plan. Additions to the east and north walls of the office building were similar to Hobart's original Streamline Moderne aesthetic, more so than the tower or the parking garage, which were rendered in stripped down International Style mode. All three additions to the office building, tower, and parking structure, were constructed between November 1953 and August 1955. The new 183-foot-tall tower replaced Hobart's original 140-foot-tall tower and, although it departed from the original in terms of plan, massing, materials, and detailing, it still adhered to the generalized "moderneistic" aesthetic of the original.

The Union Oil Company Building served as the headquarters for Union Oil Company's Central Sales Territory for over half a century until it was purchased by Bank of America in 1995. Bank of America remodeled the building's interior as part of its conversion into the company's new Interactive Banking Division. In 1998, NationsBank purchased Bank of America. In 2002, NationsBank began divesting itself of its San Francisco properties and sold the former Union Oil

Company Building to the present owners, the project sponsor. Although the Union Oil Company Building has undergone considerable interior alterations since 1955, the exterior remains substantially unchanged. Although reclad in kind and re-signed with the Bank of America logo, the tower remains one of San Francisco's most recognizable visual landmarks.

Architectural Description

The Union Oil Company Building is a 75,816-square-foot, three-story (plus penthouse), steel-frame and reinforced-concrete office building complex consisting of three major parts: an office building, a clock tower, and a parking structure. The Union Oil Company Building was originally constructed in 1940-41, altered and expanded with the clock tower and parking garage in 1953-55, and then the tower and interior were again altered in 1995. The Union Oil Company Building is one of a limited number of major transitional Streamline Moderne/International Style office buildings in San Francisco. Though not designed by the original architect of the main building, the current clock tower and the parking garage, to a lesser extent, retain some of the same stylistic features.

The building complex, including all three components, is located on a rectangular lot on the east side of First Street, between Harrison Street and the Bay Bridge West Approach. The building's footprint covers most of the 37,812-square-foot (137.5 feet by 275 feet) lot on which it was built, with the exception of a 1,375-square-foot (20 feet by 68.75 feet) cut-out in the northeast corner of the building's footprint. The office building component is three stories in height with a basement, a penthouse, and a 183-foot-tall tower (see Figures 40 through 43, pages 134 - 135). The primary west façade faces onto the 400 Block of First Street (see Figure 42, page 135). The south wall faces the Bay Bridge West Approach. The east wall faces the Harrison Street off-ramp (see Figure 43, page 135). The north wall, which is mostly composed of the parking garage, abuts Harrison Street (see Figure 44, page 139). Façade materials include terra cotta panels, roman brick, stucco, painted concrete, porcelain enameled metal paneling, and glass block. The roof is flat and the windows are either glass block or aluminum multi-lite awning sash.

West Façade

The façade of the Union Oil Company office building dates from the original 1940-41 construction. The building is asymmetrically massed due to the slope of the hill. The extruded entry is located at the north side of the office block. The entrance is sheltered behind a concrete and stucco *brise soleil*[3] that protrudes from the main body of the building. The *brise soleil* is embellished by streamlined concentric moldings. A concrete retaining wall forms the base of the entrance and provides double duty as a planter. The floor of the vestibule is concrete. The entrance itself is composed of an original aluminum storefront composed of a pair of doors and transoms, which in turn are flanked by a single storefront window to the south and five to the north. The entrance has been enclosed recently behind security fencing. To the right of the entrance is a more recent secondary entrance

[3] A brise soliel is an awning or shading structure that provides solar shading and usually consists of parallel spaced slats aligned vertically or horizontally rather than solid material.

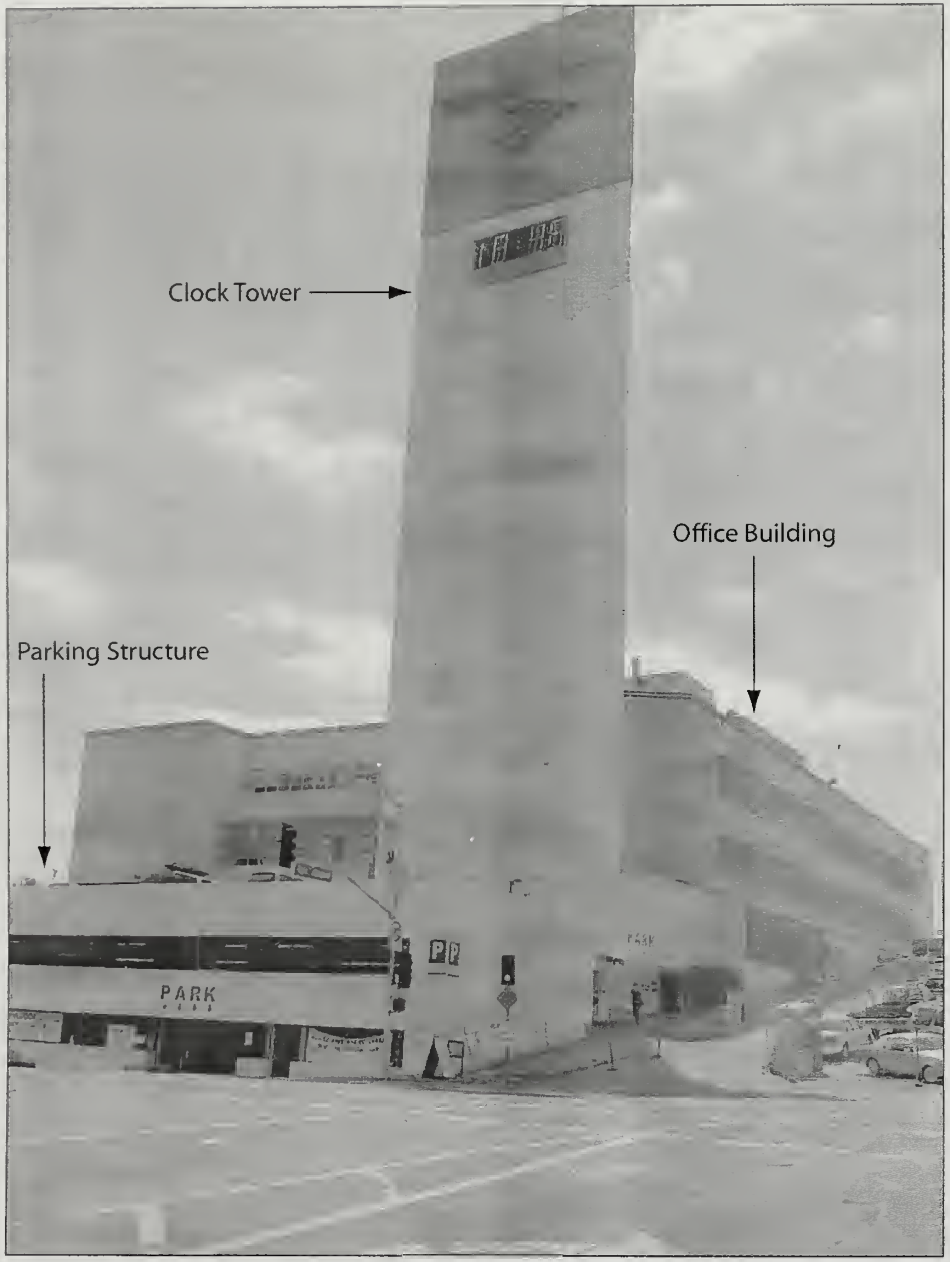
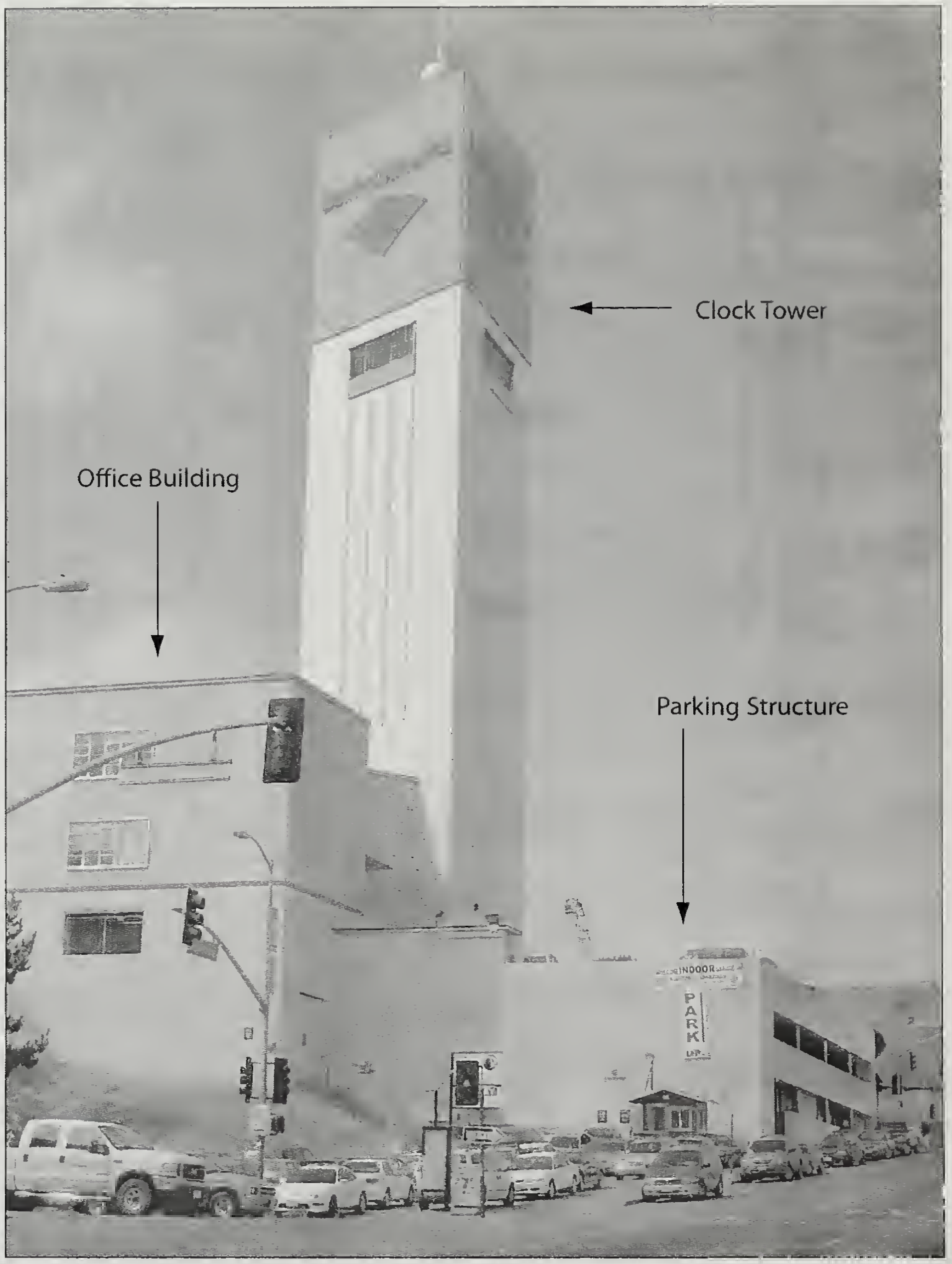


Figure 40 - Union Oil Company Building
(Looking Southeast on First Street)



Source: EDAW, Inc.

Figure 41 - Union Oil Company Building
(Looking Southwest on Harrison Street)

Figure 42 - Office Building, West Facade (First Street) Source: Page & Turnbull, Inc.

Figure 43 - Office Building, East Facade (Harrison Street Off-Ramp) Source: Page & Turnbull, Inc.

that was punched into the ribbon window in 1995 to provide disabled access to the lobby. A band of ornamental blue terra cotta tiles serves as a visual accent and demarcates the first and second floors. The second and third floor levels of the façade are identical; both consist of a field of beige terra cotta tile paneling articulated by ribbon windows glazed with structural glass blocks. The façade terminates in two bands of blue terra cotta tile and simple parapet molding.

The west walls of the 1953-55 parking structure and tower are both clad in porcelain enameled metal panels. All three walls of the tower feature four bands of vertical moldings added in 1995 when Bank of America remodeled the tower. According to the building permits, much of this cladding was replaced due to corrosion, although a visual inspection indicates that original panels still exist. Above the moldings are three digital clocks and the Bank of America logo. The Bank of America sign took the place of the 1953-55 Union 76 sign that originally emblazoned all three sides of the tower. To the north of the tower, the parking structure steps down in two levels to Harrison Street, with vehicular entrances on First Street and Harrison Street.

South Façade

The south wall of the Union Oil Company Building is difficult to photograph as it faces the Bay Bridge West Approach. This wall is divided into two parts: the western half corresponding to the original 1940-41 construction, and the eastern half corresponding to the 1953-55 addition. The western part is clad in terra cotta tile and articulated by two bands of windows glazed with structural glass blocks. The eastern section of the south wall projects approximately six inches further than the original building and is also clad in terra cotta tile. The bands of blue tile that divide the façade into horizontal sections continue around the south wall of the building.

East Façade

According to the HRE, the east wall of the Union Oil Company Building sits atop the crest of Rincon Hill and towers above the adjoining parking lot and Harrison off-ramp. The lower part of the east wall is an unadorned concrete retaining wall dating to the original 1940-41 construction. An open horizontal band in the lower part of the wall provides light and ventilation to the loading dock and parking garage. A band of decorative blue tile divides the foundation from the main body of the building, which is clad in beige terra cotta panels. Above this level, the second and third floors are identical to the facade in terms of materials and detailing, although the windows are aluminum industrial awning sash. The east wall terminates in two parallel bands of decorative blue tile and a simple parapet molding. The existing east wall was built between 1953 and 1955 according to the designs of Ralph N. Kerr, and is very similar to the original 1941 version in terms of materials, finishes, and detailing.

North Façade

The north wall of the Union Oil Company Building is set back approximately 100 feet from Harrison Street, with the 1953-55 parking structure located between it and the street . The north wall dates from the 1953-55 remodel although its use of materials, detailing, and massing is similar to the 1940-41 façade. From east to west, the north wall consists of a blank volume clad in terra cotta panels, a recessed central section articulated by two bands of windows and projecting balconies, and the porcelain enamel panel-clad tower. The exposed parts of the basement are unpainted concrete and utilitarian in nature. The north wall is detailed similarly to the other three walls, with a band of ornamental blue tiles dividing the basement level and the first floor and two bands of blue tiles running along the parapet. The parking structure terraces down northward from the office structure and meets Harrison Street at the corner of First Street. The parking structure is clad in porcelain enamel panels and is articulated by two horizontal openings.

Interior

The interior of the Union Oil Company office building, which was largely a product of the 1953-55 remodel, was gutted and remodeled in 1995 by Bank of America. The first, second and third floors were heavily altered. Presently the first floor features a small lobby just beyond the main entrance. East of the lobby is the elevator/staircase, and north of the lobby are a large conference room and associated storage and mechanical space. Also included are tenant office spaces and associated functional space. With the exception of the elevator and stair core, the 1950s partitions on the first floor were all demolished in 1995 and replaced with new metal stud and gypsum board walls.

On the second and third floors, only the concrete walls surrounding the elevator/stair core and two fire stairs, one each in the southwest and southeast corners of the building, were retained. A handful of smaller offices were retained or reconstructed in the northeastern corner of the floor plate on the third floor. The remainder of the space was demolished. Prior to the 1995 remodel the floor plan of the second and third floors featured smaller offices around the perimeter of the building and a large open office space in the center.

Finishes throughout the first floor and elsewhere in the building are typical of 1990's modern office building construction, with stone pavers or resilient flooring, gypsum board and metal stud partitions, solid-core wood doors with aluminum hardware and steel surrounds, suspended acoustical T-bar ceilings and recessed fluorescent lighting. On the second and third floors, the south and west walls feature their original 1940-41 windows, which are glazed with structural glass blocks, and the north and east walls feature aluminum awing casements dating from the 1953-55 additions.

Penthouse

The penthouse of the Union Oil Company Building is set back from the parapet of the main office block, occupying less than half of the building's total floor plate (see Figure 45, page 139). The penthouse retains a slightly higher degree of integrity than do the first, second, or third floors. From the west side of the building, the penthouse is set back more than 18 feet from the parapet. On the east side, it is set back between 10 and 45 feet. Originally housing executive offices and a large cafeteria, the penthouse has always featured a large, open plan. The 1995 remodel resulted in the demolition of the toilet rooms along the west wall and the removal of roof-mounted mechanical equipment. In terms of materials and finishes, the penthouse is nearly identical to the rest of the Union Oil Company Building's interior, with carpeted or resilient tile floors, gypsum board walls and suspended acoustical tile ceilings. The most interesting feature of the penthouse is an enclosed corridor that extends from the break room to a secondary fire stair.

POLICY AND REGULATORY FRAMEWORK

CEQA Guidelines

The assessment of project impacts on historic architectural resources[4] under CEQA (*CEQA Guidelines*, Section 15064.5) is a two-step analysis: first, an analysis of whether the project site is an historic architectural resource or contains an historic architectural resource under CEQA; and second, if the site is found to be or contain an historical resource, an analysis of whether the project would cause a substantial adverse change to the resource.

In order to be presumed historically or culturally significant, a property must be a) listed in or determined eligible for listing in the *California Register of Historical Resources* (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4850 et seq.), b) included in a local register of historical resources, as defined in Section 5020.1 (k) of the Public Resources Code, or c) identified as significant in an historical resource survey meeting the requirements of section 5024.1 (g) of the Public Resources Code. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

The *CEQA Guidelines*, Section 15064.5, establishes criteria for assessing a significant environmental impact on historical resources. They state, "[a] project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." The *CEQA Guidelines* define substantial adverse change as a "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired." The significance of an historic architectural resource is considered to be "materially impaired" when a project demolishes or materially alters the physical characteristics that justify the inclusion of the resource in the *California Register*, or that justify the inclusion of the resource in a local register, or that justify its eligibility for inclusion in the *California Register* as determined by the lead agency.

1994 Survey

The Union Oil Company Building was surveyed in the 1994 Section 106-mandated *Mid-Embarcadero Terminal Separator Project Historic Properties Survey Report*. In 1995 Hillary Gitelman, Planner III and later Environmental Review Officer for the San Francisco Planning Department, forwarded the *Mid-*

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[4] For the purposes of this report, the term "historic architectural resources" is synonymous with "historical resources" under the *CEQA Guidelines*, sec. 15064.5. The former term is used here to exclude archeological resources, which are covered in the Initial Study.

Figure 44 - Parking Structure North Facade (Harrison Street)

Source: EDAW, Inc.

Figure 45 - Penthouse, North Facade

Source: Page & Turnbull, Inc.

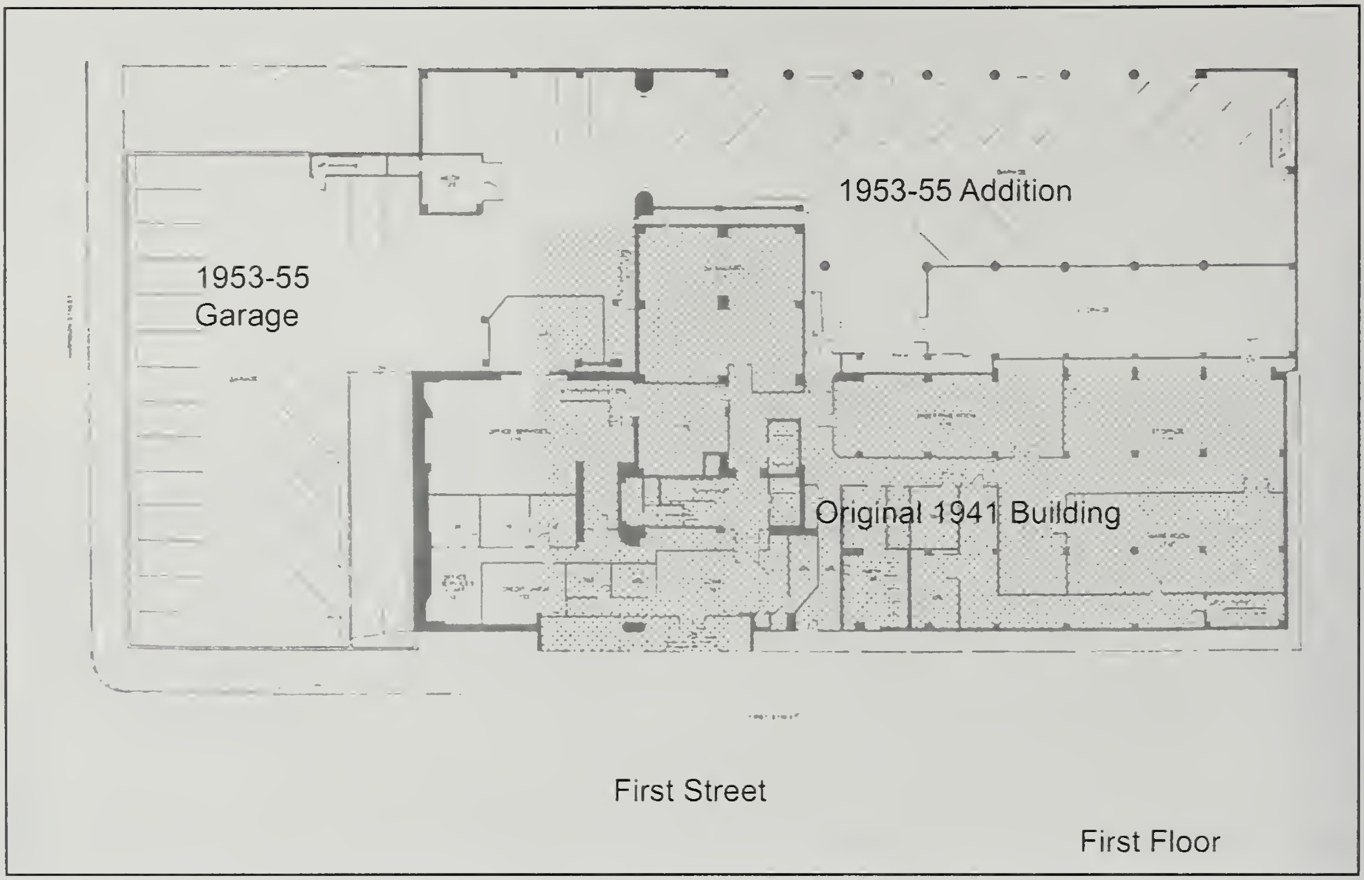

Figure 46 - Floor Plan (Original Building and Additions) Source: Page & Turnbull, Inc.

Figure 47 - Addition to the Union Oil Company, circa 1954 Source: San Francisco Public Library

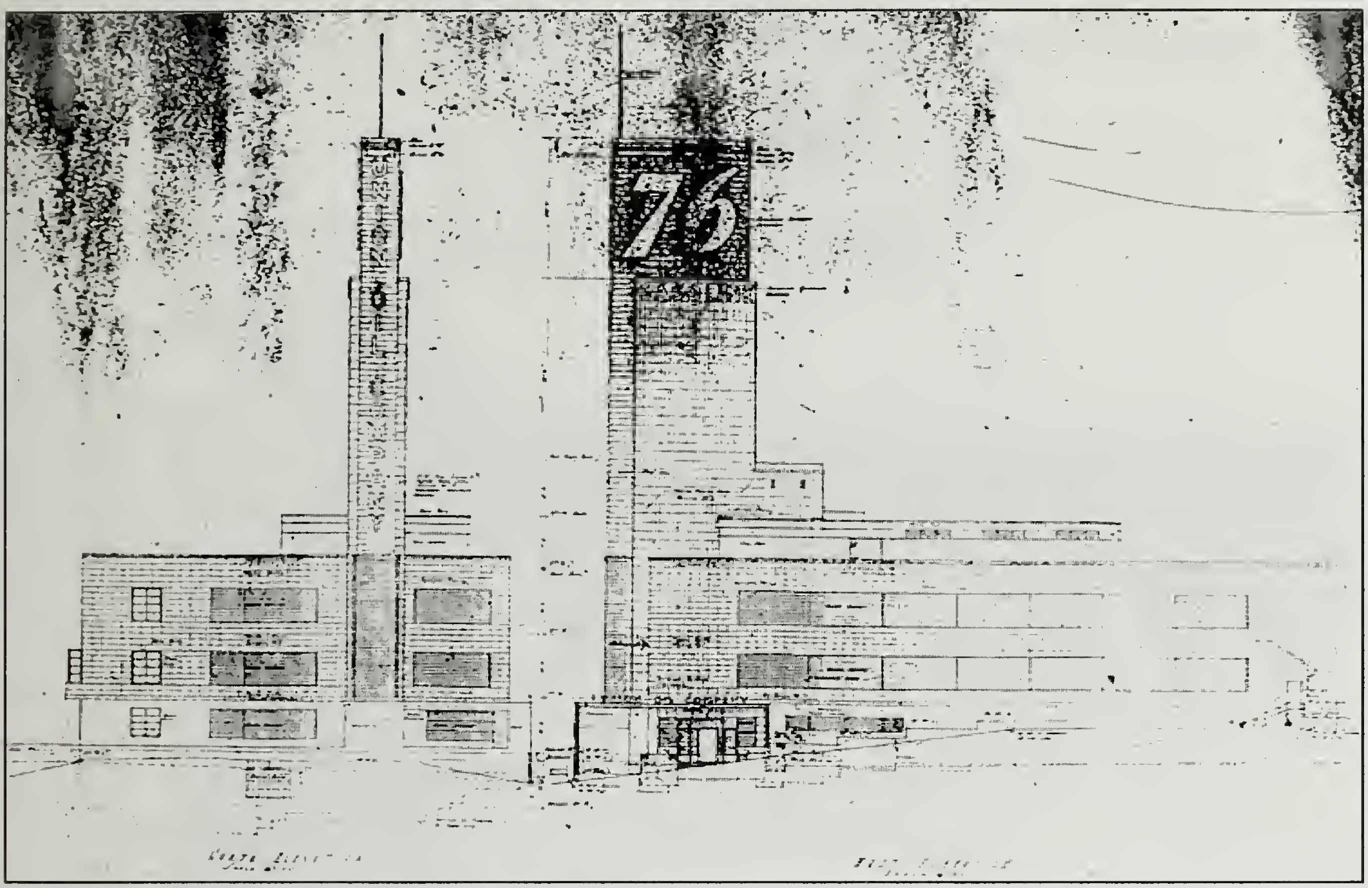

Figure 48 - Original 1940 drawing by Lewis Hobart of the north and west facades

Figure 49 - Photograph of Building in 1941 Source: California Historical Society

Figure 50 - Original 1941 Tower

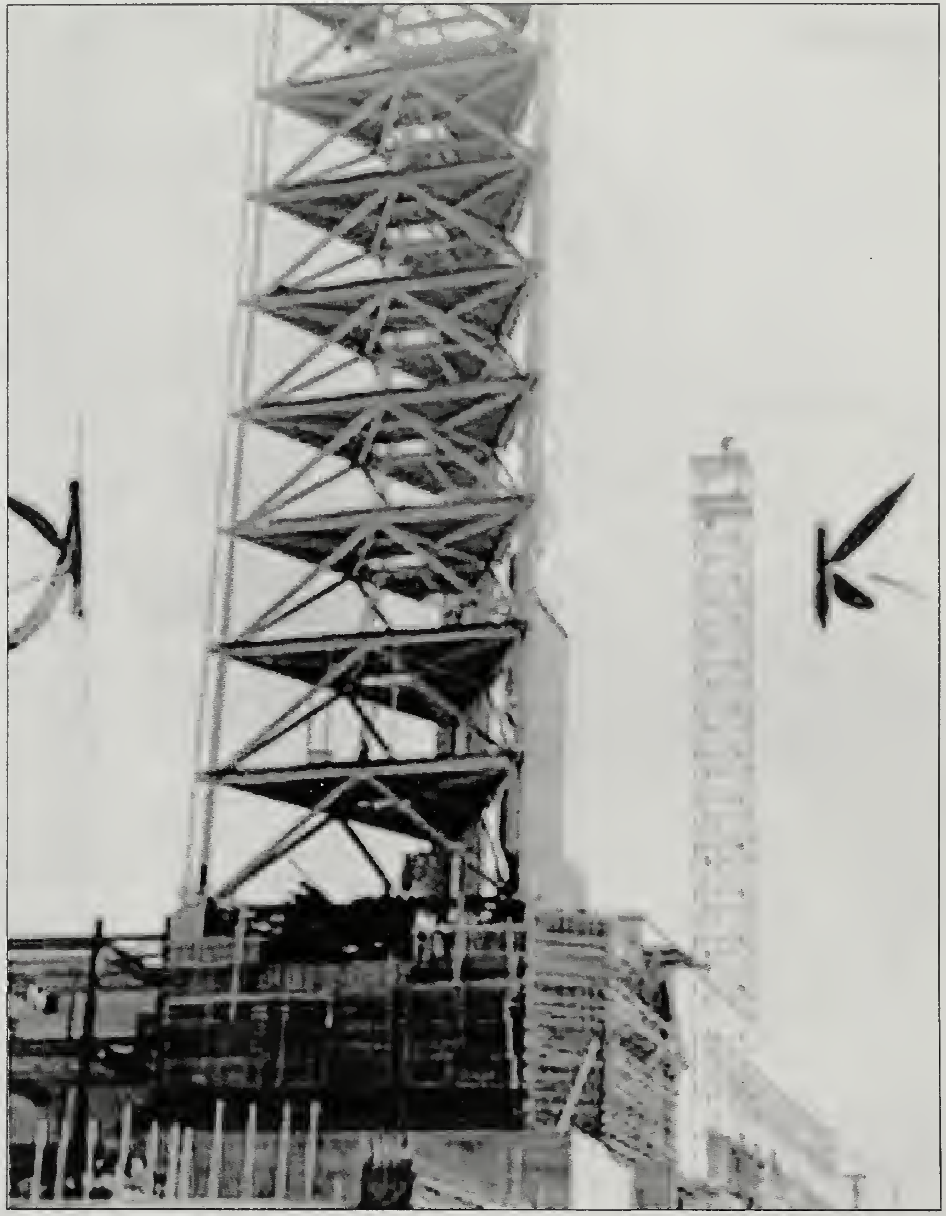

Figure 51 - Existing Clock Tower Under Construction (1953-1955)

Source: San Francisco Public Library

Embarcadero Terminal Separator HPSR to the California Office of Historic Preservation with the comment that the Union Oil Company Building be considered eligible for individual listing in the *National Register.* This comment was not followed due to the 1953-55 expansions, and the Union Oil Company Building currently does not have a *National Register Status Code.*

1976 Citywide Survey

Between 1974 and 1976 the San Francisco Planning Department conducted a citywide inventory of architecturally significant buildings. The building is identified in the 1976 Architectural Quality Survey or Citywide Survey as a "4" (with "5" being the highest rating), indicating that it was within the top 1 percent of the City's building stock for architectural merit.

The Foundation for San Francisco's Architectural Heritage

San Francisco Heritage is a not-for-profit organization dedicated to increasing awareness and preservation of San Francisco's unique architectural heritage. In *San Francisco's Architectural Heritage's Downtown Survey* the building received an "A" (highest importance) rating, as evaluated in 1984.

Article 10 of the Planning Code

The building is not listed as an individual San Francisco landmark, nor is it a contributor to a local historic district under Article 10 of the *San Francisco Planning Code* (Preservation of Historical Architectural and Aesthetic Landmarks).

San Francisco General Plan

The building is identified as a significant building in the Planning Department's 1985 *Rincon Hill Area Plan*, an area plan of the City's *General Plan.* As such, it is one of eight historic buildings identified as significant for which preservation should be encouraged in the *Rincon Hill Plan* area. The proposed amendment to the *Rincon Hill Plan* recognizes that the building is historically significant but would remove the building's current designation in the *Rincon Hill Area Plan* as a building that should be preserved.

EVALUATION OF THE UNION OIL COMPANY BUILDING

Historical Significance

The California Register of Historical Resources is an authoritative guide to significant architectural, archaeological and historical resources in the State of California. Eligibility for the *California Register* is used to determine if a building is historically significant for CEQA purposes. Resources can be listed in the *California Register* through a number of methods. State Historical Landmarks and *National Register*-eligible properties are automatically listed. Properties can also be nominated to the *California Register* by local governments, private organizations or citizens. In essence the criteria used in the *California Register* for determining eligibility are the same as those used by the National Park Service for the *National Register*. In order to be determined eligible for listing a property must be demonstrated to be significant under one or more of the following criteria:

- **Criterion 1 (Events):** Resources that are associated with events that have made a significant contribution to the broad pattern of local or regional history, or the cultural heritage of California or the United States.

- **Criterion 2 (Person):** Resources that are associated with the lives of persons important to local, California, or National history.

- **Criterion 3 (Architecture):** Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master or possess high artistic values.

- **Criterion 4 (Information Potential):** Resources or sites that have yielded or have the potential to yield information important to the prehistory or history of the local area, California, or the Nation.

The Union Oil Company Building is currently not listed in the *California Register*. According to the HRE, the Union Oil Company Building is eligible for listing in the *California Register* under Criterion 3 (Architecture). Criterion 3 is as follows: "Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values." The conclusion of the HRE is based on the Union Oil Company Building being a rare and well preserved example of transitional Streamline Moderne/ International Style. The HRE also states that the Union Oil Company Building is one of only a handful of privately financed office buildings to be constructed during the Depression in San Francisco. The conclusion of the HRE is also based on the association with architect Lewis P. Hobart, one of San Francisco's most important society architects during the first half of the Twentieth Century.

In terms of their relative historical significance, the various components of the Union Oil Company Building were ranked in terms of age and integrity by the consultant. According to the HRE, parts of the building are more significant as a result of their age and association with the original design of Lewis Hobart. The most important part of the building is the original 1940-41 office building. Designed by Lewis Hobart and barely altered on the façade since its completion, the First Street façade is the clearest expression of Hobart's later work. Ranked second, and hardly distinguishable from the original, is the first 1953-55 addition to the east of the original section of the building. This addition is very similar in terms of height, massing, materials and detailing. Ranked third is the 1953-55 tower addition. Recent alternations have resulted in changes to its original appearance, particularly the replacement of the "Union 76" sign and logo with Bank of America's logo and signage and the addition of vertical "speedlines" to the exterior. Ranked fourth in terms of significance is the parking structure. Built in 1955 along the north wall of the original Union Oil Company Building, the parking structure does not contribute significantly to the overall significance of the building. It was also the last major section of the building to be completed and does little for the street or building. Overall, substantial changes have been made to Hobart's original design and the building complex has increased considerably in size. Only two of the original walls designed by Hobart are visible, and the original tower has been replaced by a different tower.

Integrity

A building must also have integrity to be eligible for the *California Register.* The process of determining integrity is similar for the *California Register* as it is for the *National Register.* The same seven variables or aspects that define integrity (location, design, setting, materials, workmanship, feeling, and association) used to determine eligibility for listing in the *National Register* are also used to evaluate a resource's eligibility for listing in the *California Register.* According to the historic resources evaluation, while the interior of the Union Oil Company Building has been heavily altered, the facades of the office building maintain a high degree of integrity. This is true for both the 1941 original building and 1953-55 additions. Although the additions resulted in the modification of the north and east facades of the original building, they make use of identical materials and architectural vocabulary and are themselves approximately 50 years old. Due to their compatibility with the original design, the additions have gained significance in their own right. On the exterior, the most significant post-1955 alterations include the removal of the Union 76 sign and other alterations to the tower performed after 1995. In this work, the porcelain enameled metal panels were replaced in kind using identical materials. The speed lines that were added as part of this work are not original, but they are sympathetic to the original design. The Bank of America signage is the least compatible alteration to the exterior of the Union Oil Company Building. For most of the building complex's history, motorists were greeted by the same familiar blue and orange logo. While its replacement with signage of another company is not unexpected given the change in ownership of the building, it was jarring for the accustomed motorist.

According to the HRE, relative to the seven criteria that define integrity for inclusion in the *California Register*, the Union Oil Company Building is evaluated as follows:

Location The Union Oil Company Building retains its historic location.

Design Based on its 1941 appearance, the Union Oil Company Building retains a low-to-moderate degree of integrity. Based on its 1955 appearance it retains a high- to moderately-high degree of integrity of design.

Setting The Union Oil Company Building's immediate setting has not changed appreciably since the building assumed its present appearance in 1955. Beyond a half-block radius of the building the formerly industrial character of Rincon Hill is changing rapidly. The Union Oil Company Building retains integrity of setting.

Materials Both the 1941 and 1953-55 sections of the Union Oil Company Building use the same materials: concrete, terra cotta paneling, steel windows, glass block, decorative tile, etc. In 1995, the tower was re-clad in kind using the identical enameled metal panels as the original tower. The Union Oil Company Building maintains integrity of materials.

Workmanship The Union Oil Company Building is a product of industrial materials and construction techniques. Nevertheless, the exterior is skillfully executed utilizing the materials and supplies at hand. The Union Oil Company Building retains integrity of workmanship.

Feeling The Union Oil Company Building conveys the aesthetic sensibility of a brief period of America's history, when the Depression was giving way to preparations for the Second World War. The period was characterized by an abiding interest in frugality and functionality in architecture coupled with a fascination with the machine. The Union Oil Company Building's combination of Streamline Moderne and International Style motifs is indicative of this time in American history. The later additions to the original building are in keeping with the building's aesthetic and do not detract from it. The Union Oil Company Building retains integrity of feeling.

Association The Union Oil Company Building is not associated with any important events or persons; therefore it does not retain integrity of association.

In summary, according to the HRE, the exterior of the Union Oil Company Building retains six of the seven criteria that define integrity, namely location, design, setting, materials, workmanship and feeling.

Conclusion: Historical Architectural Resources

As mentioned above, the Union Oil Company Building was surveyed in 1994 and in 1995. Department staff's comment during environmental review of the Mid Embarcadero Roadway project that the Union Oil Company Building be considered eligible for individual listing in the *National Register* was not followed, based on the 1953-55 expansions. The Union Oil Company Building currently does not have a *National Register Status Code,* and the building is not listed as an individual San Francisco Landmark, nor is it a contributor to a local historic district under Article 10, Section 1004 and 1004.4 of the *San Francisco Planning Code.* The Union Oil Company Building is not listed within Article 11 of the *San Francisco Planning Code* because it is outside of the Downtown C-3 District area.

The information presented above, and elaborated on in the HRE, supports a lead agency determination that the Union Oil Company Building, identified as architecturally significant, is eligible for listing on the *California Register of Historical Resources* under Criterion 3 (Architecture). As such, the building is also an historical resource under CEQA Guidelines, Section 15064.5(a) (3).

IMPACTS

Significance Criteria

Pursuant to CEQA Guidelines Section 15064.5, a project would have a significant effect if it would cause a substantial adverse change in the significance of an historic resource. A "substantial adverse change" is defined by CEQA Guidelines Section 15064.5 as "demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired."

Project-specific Impacts

The project includes demolition and replacement of the Bank of America Building complex (former Union Oil Company Building) with two residential towers, one 450-feet tall and the other 550-feet tall (containing approximately 720 units), and approximately 720 parking spaces. The towers are connected by proposed 45-feet-tall townhouses along First Street and Harrison Street.

Based on the HRE for the project, which has been reviewed by Planning Department staff, the Union Oil Company Building is individually eligible for listing in the *California Register* under Criterion 3 (Architecture). According to the historic consultant and Planning Department staff, the proposed demolition would have a significant effect on the historic resource. It would constitute a substantial adverse change in the significance of an eligible historic architectural resource, under CEQA Guidelines Section 15064.5(b) (2) (c), and would, therefore, be considered a significant environmental impact under CEQA.

The HRE identified a mitigation measure that would reduce the effects of demolition by recordation of the building; this measure is included in Chapter IV as Mitigation Measure Number 4. This mitigation measure would not, however, reduce the project impacts on the resource to a less-than-significant impact. Therefore, demolition of the Union Oil Company Building is considered a significant and unavoidable impact. The EIR in Chapter VI includes a preservation alternative that would preserve the entire existing building complex, including the office building, clock tower, and parking garage. Retention of the three-part building would eliminate this significant impact.

Cumulative Impacts

The Union Oil Company Building is not located within a designated historic district. In 1979, development of a PG&E substation at the southwest corner of Folsom and Fremont Streets began a trend of replacement structures in the immediate vicinity of the project site. The biggest change in the immediate vicinity was the post-1989 removal of the earthquake-damaged Embarcadero Freeway, which has opened up the area for considerable new construction. There are numerous existing residential developments in proximity to the project site (e.g., The Avalon Towers, Bridgeview Tower), as well as several other developments under construction. The ongoing demolition of older buildings within the Rincon Hill area is changing the overall character of the neighborhood from a concentrated industrial/maritime-related district, as it evolved between the 1906 Earthquake and the Second World War, into a high-rise and predominantly residential district. While the majority of the buildings intended for demolition are, in most cases, not individually significant, the cumulative effect of demolishing older buildings would permanently alter the area's character.

In the 1985 *Rincon Hill Area Plan* and the proposed *Rincon Hill Plan, Draft for Public Discussion, November 2003*, the preservation of the Union Oil Company was encouraged. Under those plans, demolition of the Union Oil Company Building would remove one of the eight buildings identified as significant. However, the September 2004 Supplement to the *Rincon Hill Plan* does not recommend preservation of the Union Oil Company Building. In addition, the *Rincon Hill Plan DEIR* identifies two more buildings (347 Fremont and 375 Fremont) as historic resources. They are currently proposed for demolition.

The *Rincon Hill Plan Draft EIR* (page 204) identified demolition of the Union Oil Company Building as a significant unavoidable impact. The impact of demolishing one of the limited number of identified significant buildings could have a cumulative negative impact on Rincon Hill because of the small number of historically significant buildings in the neighborhood and the even smaller number of significant Streamline Moderne buildings in the City. It should be noted that aside from the Union Oil Company Building, six of the seven other buildings identified as significant in the *Rincon Hill Plan* have either been preserved or adaptively reused. The remaining seventh is the Sailor's Union of the Pacific Building across Harrison from the project site; this building is proposed for rehabilitation for reuse, in part, as a community center, in the *Rincon Hill Plan, Draft for Public Discussion, November 2003.*

According to the historic resources consultant's evaluation, the demolition of the Union Oil Company Building would have a negative cumulative impact on the limited stock of major transitional Streamline Moderne/International Style office buildings in San Francisco. Although a complete inventory of other buildings of similar age, scale, materials and ornamentation is not appropriate for this single project EIR, a careful look at the surrounding South of Market and Financial Districts turns up a few comparable examples to the Union Oil Company Building, such as the Rincon Annex Post Office, the Sailor's Union of the Pacific, and the Transbay Terminal (proposed for demolition). According to the consultant, the South of Market area does have several dozen significant machine shops and warehouses in this style but few major office buildings. The relative scarcity of buildings designed in the style holds true for other cities as well, especially for non-government related buildings. Given that the Union Oil Company Building is not part of a designated historic district, the loss of the Union Oil Building would not decrease the significance of other historical buildings in the Rincon Hill neighborhood. According to the consultant, because there are relatively few other buildings in the Streamline Moderne style elsewhere in the city, the loss of this one example of the Streamline Moderne style would be adverse and cumulatively significant. In his view, the project would contribute to the significant cumulative impact.

Planning Department preservation staff agrees that the project would have a negative impact on the Union Oil Company Building, which has been found to be a historic resource, as the project includes its demolition. Preservation staff also agrees that the demolition of this building, along with the demolition of other older potentially significant buildings in the Rincon Hill area, could have a negative cumulative effect on historic properties in the Rincon Hill area. This building being one of only eight significant buildings identified in the existing *Rincon Hill Plan* makes its demolition contribute to this cumulative impact.

However, Planning Department preservation staff disagrees with Page and Turnbull's conclusion that the project would be considered to have an adverse cumulative impact on the limited stock of major transitional Streamline Moderne/ International Style office buildings in San Francisco. Staff does not believe that there is enough information in the record to support this conclusion. While the report does discuss the Streamline Moderne and International Style schools of architecture and how this building includes traits of both styles, it does not provide a survey of what other buildings share the same combination of architectural styles. Preservation staff believes that the combination of these styles in the way they were applied to the Union Oil Company building is unique, and contributes to its individual significance. In view of the above, the Planning Department preservation staff concludes that the loss of the architectural style represented by the Union Oil Company building is best treated as a project-specific adverse impact and not a cumulative one.[5] As discussed above, the project would have a significant cumulative impact, but not on this basis.

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[5] Memorandum from Mat Snyder to Carol Roos regarding 425 1st Street / (Blcok 376/Lots 1, 9 and 15) Case No. 2003.0029E Historic Resource Evaluation. January 27, 2005.

H. GROWTH INDUCEMENT

Growth inducement under CEQA considers the ways in which proposed and foreseeable project activities could encourage and facilitate other activities that would induce economic or population growth in the surrounding environment, either directly or indirectly.[1] The Initial Study (see Appendix A, pp. 15-16) concluded that the project would not displace a large number of people or create a substantial demand for additional housing, but would contribute to the overall cumulative growth of the Rincon Hill area. This EIR section summarizes the possibilities for growth, and concludes that the project would allow additional population growth, but not to a significant level.

At full occupancy, the existing office building on the site could have accommodated approximately 276[2] office employees. The proposed development would be expected to include approximately 10 retail employees[3] and approximately 16 parking, janitorial, building maintenance and management employees,[4] for a total of 26 employees. As such, the project would result in a net decrease of approximately 240 jobs in the amount of employment on the site. Because the existing building on the site is currently vacant, the project would result in a nominal increase of approximately 26 jobs on the site relative to current conditions. The net increase in employment would be less than 0.004 percent of total employment of 731,660 jobs by 2020 in San Francisco and less than 0.03 percent of employment growth of 102,800 jobs projected for the period between 2000 and 2020 for San Francisco. Project employment, even if it were to represent all new residents to the City, would not result in a substantial contribution to overall housing demand, and would not be considered significant.

The project would not be expected to induce substantial new residential or commercial growth not already planned for. Bank of America relocated all of the employees who worked in the on-site office space in late 2002; therefore the project would not displace any employees.

Based on a household density factor of about 1.4 persons per dwelling unit in the *Rincon Hill Plan* area as reported by the 2000 U.S. Census,[5] the proposed residential project is estimated to accommodate approximately 1,008 people. The City is projected to need 20,372 additional dwelling units by 2006, an average yearly need of about 2,716 net new dwelling units.[6] The project would contribute about 720 units to the City's housing stock. As noted above, the project would not create substantial demand for new housing.[7]

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1 State *CEQA Guidelines*, as amended January 1, 2001, Section 15126.2(d).

2 Based on a standard multiplier of 275 sq. ft. per office employee (75,816 sq. ft./275 sq. ft. per employee = 276 employees), based on San Francisco Planning Department transportation analysis guidelines and Keyser Marston Associates, Inc., *San Francisco Cumulative Growth Scenario: Final Technical Memorandum*, prepared for the San Francisco Redevelopment Agency, March 30, 1998.

3 Based on a standard multiplier of 350 sq. ft. per retail employee (3,550 sq. ft./350 sq. ft. per employee = 10.2 employees), based on San Francisco Planning Department transportation analysis guidelines and Keyser Marston Associates, Inc., *San Francisco Cumulative Growth Scenario: Final Technical Memorandum*, prepared for the San Francisco Redevelopment Agency, March 30, 1998.

4 The estimated number of on-site employees was provided by the project spsonsor.

5 City and County of San Francisco Planning Department, *Rincon Hill Plan DEIR*, Planning Department File No. 2000.1081E, SCH No. 1984061912p. 135.

6 Association of Bay Area Governments, *Regional Housing Needs Determination 1999-2006*, located at http://www.abag.org/planning/housingneeds/99rhnd.htm.

7 Based on an employed-resident density factor of 1.63 employee per household, the increase in employment due to project development would create an additional demand for about 16 residential units (26 net new jobs divided by a factor of 1.63 employees per household results in a demand for 16 residential units). Employed-resident density factor of 1.63 employee per

The project's approximately 720 residential units would more than offset housing demand from the limited employment related to the project. Because the units are proposed to be market-rate housing, they would not fulfill needs at all levels identified in ABAG's *Regional Housing Needs Determination*. However, as discussed in Chapter II, Project Description, p., the project sponsor would be required to comply with the inclusionary housing requirements in *Planning Code* Section 315 on- or off-site or by payment of an in-lieu fee. The requirement varies between 10 and 17 percent, depending on the nature of approvals requested and method of compliance.

It is expected that some workers employed on the project site would want to live in San Francisco. In addition, some new jobs would be filled by individuals who already live and work in the City; those who live in the City but who were previously not employed or who worked outside the City; those who live in the surrounding communities; or those unable to afford to reside in the City. New workers would also increase demand for housing in other parts of the Bay Area. (See Appendix A, Initial Study, pp. 15-16, for further discussion of housing demand.) As noted, the approximately 26 employees that would be at the project site would be relatively low, compared to the number of jobs citywide.

Direct increases in housing and employment, such as those from the project, could induce further growth in business and employment to provide a range of goods and services to meet the needs of the residents and employees at One Rincon Hill. Some of the growth would occur locally in San Francisco, particularly in the Rincon Hill area if the proposed *Rincon Hill Plan* and DTR District are adopted and implemented. Some growth could occur elsewhere in the City and in the region. The direct and indirect growth of the project in San Francisco and the region is anticipated in ABAG's regional forecasts in employment, households, and population growth. While the increase in numbers of residents and employees on the project site would be noticeable to neighbors, these levels are common and accepted in high-density urban areas such as San Francisco.

Since the project does not have unusual labor requirements, it would be expected that project construction would meet its need for labor within the regional labor market for construction projects in San Francisco without attracting construction labor from areas beyond the region's borders.

The project would be an infill project in a densely developed urban area. It would not require new or expanded municipal infrastructure not already under consideration. In view of the above, there is no evidence to suggest the project would result in additional development in the vicinity of the project that would not otherwise occur.

household is from Keyser Marston Associates, Inc. and Gabriel Roche, Inc., *Jobs Housing Nexus Analysis, City of San Francisco*, July 1997, Section III, p. 32.

I. AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

Based on the EIR scoping meeting and responses to the Notice of Preparation for this EIR, the primary areas of controversy or issues to be resolved regarding the proposed One Rincon Residential Development project concern the following:

1) potential cumulative effects, such as traffic, visual quality, noise, and air quality, associated with development of the project along with other proposed development throughout the Rincon Hill neighborhood;

2) the project's potential impacts on visual quality and views; and

3) potential impacts on area traffic congestion.

These concerns are addressed by topic, herein.

CHAPTER IV

MITIGATION MEASURES PROPOSED TO MINIMIZE POTENTIAL ADVERSE IMPACTS OF THE PROJECT

Mitigation measures have been identified in this EIR that would reduce or eliminate potential significant environmental impacts of the project. Mitigation measures for construction air quality, hazards, and archaeological resources were listed in the Initial Study. The project would result in significant project-specific traffic impacts and would considerably contribute to cumulative traffic impacts. However, due to the geometry of the affected intersections and the inability to increase capacity on the Bay Bridge, there are no feasible mitigation measures that would improve conditions at the affected intersections to a less-than-significant level of impact and, therefore, no mitigation or improvement measures are proposed. A mitigation measure is identified to partially offset the significant historic architectural impact; because destruction of the historic structures cannot be avoided with the project, this impact would remain significant and unavoidable even with this mitigation measure. Some mitigation measures may be the responsibility of other agencies. Other measures may be required by decision makers as conditions of project approval if the project is approved.

Existing City, State, and federal regulations require a variety of protective and other measures that would also serve to mitigate potential project impacts. These measures are not identified in this chapter; rather they are assumed to constitute part of the project, and compliance with the measures would be monitored by the appropriate regulatory agencies. City-mandated controls on the project would include a limitation on construction noise (*San Francisco Noise Ordinance*, Article 29 of the *San Francisco Police Code*, 1972); a prohibition on the use of mirrored glass on the building to reduce glare (City Planning Commission Resolution 9212); protective measures against lead-based paint exposure (Chapter 36 of the *San Francisco Building Code, Work Practices for Exterior Lead-Based Paint*); and the requirement for street trees (*Planning Code* Section 143). The project sponsor and construction contractors would also be required to observe State and federal OSHA safety requirements related to handling and disposal of other hazardous materials, such as asbestos and hazardous materials in water and soils.

Mitigation measures identified in this report are provided below along with their status. Implementation of these measures would reduce impacts to less-than-significant levels, except for the historic architectural impact. An asterisk (*) denotes mitigation measured identified in the Initial Study.

Construction Air Quality*

1. To reduce particulate emissions, the project sponsor shall require the contractor(s) to spray the project site with water during demolition, excavation and construction activities; sprinkle unpaved exterior construction areas with water at least twice per day, or as necessary; cover stockpiles of soil, sand, and other material; cover trucks hauling debris, soil, sand or other such material; and sweep surrounding streets during demolition excavation and construction at least once per day. Ordinance 175-91, passed by the Board of Supervisors on May 6, 1991, requires that non-potable water be used for dust control activities. Therefore, the project sponsor would require that the contractor(s) obtain reclaimed water from the Clean Water Program for this purpose.

   The project sponsor shall require the project contractor(s) to maintain and operate construction equipment so as to minimize exhaust emissions of particulates and other pollutants, by such means as prohibiting idling motors when equipment is not in use or when trucks are waiting in queues, and implementing specific maintenance programs to reduce emissions for equipment that would be in frequent use for much of the construction period.

Hazards*

2. <u>Step 1: Preparation of a Site Mitigation Plan</u>

   Soil and groundwater samples shall be characterized (analyzed) for metals, petroleum hydrocarbons and gasoline/diesel components, volatile and semi-volatile organic compounds, and/or other constituents, as requested by the Department of Public Health (DPH). In addition, groundwater characterization shall be carried out for total suspended solids, total settleable solids, pH, total dissolved solids, and turbidity. Samples shall be analyzed by State-accredited laboratories. Based on the results of soil and groundwater characterization, a Site Mitigation Plan shall be prepared by a qualified individual, in coordination with DPH and any other applicable regulatory agencies. The sampling and studies shall be completed by a Registered Environmental Assessor or a similarly qualified individual. Excavated soils shall be disposed of in an appropriate landfill, as governed by applicable laws and regulations, or other appropriate actions shall be taken in coordination with DPH.

   <u>Step 2: Site Health and Safety Plan</u>

   Prior to conducting any remediation activities, a Site Health and Safety Plan would be prepared pursuant to California Division of Occupational Safety and Health guidance to ensure worker safety. Under CAL-OSHA requirements, the Site Health and Safety Plan would need to be prepared prior to initiating any earth-moving activities at the site. The Site Health and Safety Plan shall identify protocols for managing soils during construction to minimize worker and public exposure to contaminated soils. The protocols shall include at a minimum:

- Characterization of excavated native soils proposed for use on site prior to placement to confirm that the soils meet appropriate standards.

- The dust controls specified in Mitigation Measure 1.

- Protocols for managing stockpiled and excavated soils.

The Site Health and Safety Plan shall identify site access controls to be implemented from the time of surface disruption through the completion of earthwork construction. The protocols shall include as a minimum:

- Appropriate site security to prevent unauthorized pedestrian/vehicular entry, such as fencing or other barrier or sufficient height and structural integrity to prevent entry and based upon the degree of control required.

- Posting of "no trespassing" signs.

- Providing on-site meetings with construction workers to inform them about security measures and reporting/contingency procedures.

If groundwater contamination is identified, the Site Health and Safety Plan shall identify protocols for managing groundwater during construction to minimize worker and public exposure to contaminated groundwater. The protocols shall include procedures to prevent unacceptable migration of contamination from defined plumes during dewatering.

The Site Health and Safety Plan shall include a requirement that construction personnel be trained to recognize potential hazards associated with underground features that could contain hazardous substances, previously unidentified contamination, or buried hazardous debris.

The Site Health and Safety Plan shall include procedures for implementing a contingency plan, including appropriate notification and control procedures, in the event unanticipated subsurface hazards are discovered during construction. Control procedures could include, but would not be limited to, investigation and removal of underground storage tanks or other hazards.

Foundation plans and utility plans for the project will be provided to DPH.

<u>Step 3: Handling, Hauling, and Disposal of Contaminated Soils</u>

(a) <u>specific work practices</u>: If, based on the results of the soil tests conducted, DPH determines that the soils on the project site are contaminated at or above potentially hazardous levels, the construction contractor shall be alert to the presence of such soils during excavation and other construction activities on the site (detected through soil odor, color, and texture and results of on-site soil testing), and shall be prepared to handle, profile (i.e. characterize), and dispose of such soils appropriately (i.e., as dictated by local, State, and Federal regulations) when such soils are encountered on the site.

(b) dust suppression: Soils exposed during excavation for site preparation and project construction activities shall be kept moist throughout the time they are exposed, both during and after work hours.

(c) surface water runoff control: Where soils are stockpiled, visqueen shall be used to create an impermeable liner, both beneath and on top of the soils, with a berm to contain any potential surface water runoff from the soil stockpiles during inclement weather.

(d) soils replacement: If necessary, clean fill or other suitable material(s) shall be used to bring portions of the project site, where contaminated soils have been excavated and removed, up to construction grade.

(e) hauling and disposal: Contaminated soils shall be hauled off the project site by waste hauling trucks appropriately certified with the State of California and adequately covered to prevent dispersion of the solids during transit, and shall be disposed of at a permitted hazardous waste disposal facility registered with the State of California.

Step 4: Preparation of Closure/Certification Report

After excavation and foundation construction activities are completed, the project sponsor shall prepare and submit a closure/certification report to DPH for review and approval. The closure/certification report shall include the mitigation measures in the SMP for handling and removing contaminated soils from the project site, whether the construction contractor modified any of these mitigation measures, and how and why the construction contractor modified these mitigation measures.

Archaeological Resources*

3. Based on a reasonable presumption that archaeological resources may be present within the project site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the project on buried historical resources. The project sponsor shall retain the services of a qualified archaeological consultant having expertise in urban historical archeology. The archaeological consultant shall undertake an archaeological testing program as specified herein. In addition, the consultant shall be available to conduct an archaeological monitoring and/or data recovery program if required pursuant to this measure. The archaeological consultant's work shall be conducted in accordance with this measure and with the archaeological testing recommendations of the project archaeological resources study (*Archaeological Resources Study for 425 First Street, Rincon Hill, San Francisco*, Anthropological Studies Center, August 2003) at the direction of the Environmental Review Officer (ERO). The project archaeological resources study is an addendum to the *San Francisco-Oakland Bay Bridge, West*

Approach Replacement: Archaeological Research Design and Treatment Plan (Ziesing 2000). In any instance of inconsistency between the requirements of the project archaeological research design and treatment plan or of the project archaeological resources study and of this archaeological mitigation measure, the requirement of the latter shall prevail. All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Archaeological monitoring and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the ERO, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less than significant level potential effects on a significant archaeological resource as defined in CEQA Guidelines Section 15064.5 (a)(c).

Archaeological Testing Program. The archaeological consultant shall prepare and submit to the ERO for review and approval an archaeological testing plan (ATP). The project ATP shall be consistent with the testing recommendations of the project archaeological resources study (Anthropological Studies Center. August 2003) that identifies distinct testing strategies for four (4) prioritized Archaeologically Sensitive Areas. The archaeological testing program shall be conducted in accordance with the approved ATP. The ATP shall identify the property types of the expected archaeological resource(s) that potentially could be adversely affected by the project, the testing method to be used, and the locations recommended for testing. The purpose of the archaeological testing program will be to determine to the extent possible the presence or absence of archaeological resources and to identify and to evaluate whether any archaeological resource encountered on the site constitutes an historical resource under CEQA.

At the completion of the archaeological testing program, the archaeological consultant shall submit a written report of the findings to the ERO. If based on the archaeological testing program the archaeological consultant finds that significant archaeological resources may be present, the ERO in consultation with the archaeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional archaeological testing, archaeological monitoring, and/or an archaeological data recovery program. If the ERO determines that a significant archaeological resource is present and that the resource could be adversely affected by the project, at the discretion of the project sponsor either:

(a) The project shall be re-designed so as to avoid any adverse effect on the significant archaeological resource; or

(b) A data recovery program shall be implemented, unless the ERO determines that the archaeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.

Archaeological Monitoring Program. The Archaeological Monitoring Program shall be consistent with the recommendations of the Archaeological Resources Study for 425 First Street, Rincon Hill, San Francisco [One Rincon Hill] (August 2003). Whether or not significant archaeological resources are encountered, the archaeological consultant shall submit a written report of the findings of the monitoring program to the ERO.

Archaeological Data Recovery Program. The Archaeological Data Recovery Program shall be consistent with the San Francisco-Oakland Bay Bridge, West Approach Replacement: Archaeological Research Design and Treatment Plan (Ziesing 2000).

Human Remains and Associated or Unassociated Funerary Objects. The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and Federal laws. This shall include immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (*Pub. Res. Code* Sec. 5097.98). The archaeological consultant, project sponsor, and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (*CEQA Guidelines*, Sec. 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects.

Final Archaeological Resources Report. The archaeological consultant shall submit a Draft Final Archaeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archaeological resource and describes the archaeological and historical research methods employed in the archaeological testing/monitoring/data recovery program(s) undertaken. Information that may put at risk any archaeological resource shall be provided in a separate removable insert within the final report.

Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Major Environmental Analysis division of the Planning Department shall receive three copies of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest in or the high interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.

Historic Architectural Resources

4. The project sponsor shall provide historic documentation of the Union Oil Company Building. A complete survey, to the standards of the Historic American Building Survey (HABS), shall be undertaken prior to demolition. The survey would include a written description and history, large-format photographic recordation and detailed HABS-level drawings to be made to record the building in its present condition. However, according to State *CEQA Guidelines* Section 15126.4(b)(2), documentation of a historical resource, by way of historic narrative, photographs and/or architectural drawings (often HABS-Level), as mitigation for the effects of demolition of the resource will not mitigate the impact to a less-than-significant level. The documentation resulting from the survey shall include the following:

   - A HABS outline report containing written description and historical information

   - Photographic documentation of the Union Oil Company Building. Such documentation shall meet HABS standards of detail and quality for photographic documentation in 4-inches-by-5-inches or 5-inches-by-7-inches photographs and negatives. It shall include the features identified in the historic resources evaluation and shall be keyed to a description in the outline report of the location, condition, and significance of each space or feature.

   - Detailed HABS-level drawings to record the building in its present condition.

   - An appropriately conserved set of the existing architectural drawings of the Union Oil Company Building.

   - A compilation of reproduced photographs, news articles, organizational literature, memorabilia, and other interpretive materials, pertaining to events and activities at the Union Oil Company Building throughout its history, to the extent that such materials are available through the San Francisco Public Library and other sources.

   - A display of photographs and interpretive materials concerning the history and architectural features of the Union Oil Company Building shall be installed inside the project in an area accessible to the public.

   Copies of the narrative, photographic documentation, and any available architectural drawings of the building shall be submitted to the San Francisco Planning Department prior to, and as a condition of, City issuance of a final Certification of Occupancy for the completed project, dependent on project approval. In addition, the project sponsor shall prepare and transmit the photographs and descriptions of the Union Oil Company Buildings to the History Room of the San Francisco Public Library, and to the Northwest Information Center of the California Historical Information Resource System. As noted above, the above measure would not reduce the impact to a less-than-significant level. Therefore, a significant unavoidable impact would result.

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CHAPTER V

SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROJECT IS IMPLEMENTED

In accordance with Section 21067 of the California Environmental Quality Act (CEQA), and with Section 15126(b) of the State *CEQA Guidelines*, the purpose of this chapter is to identify impacts that could not be eliminated or reduced to an insignificant level by mitigation measures included as part of the project, or by other mitigation measures that could be implemented, as described in Chapter IV, Mitigation Measures Proposed to Minimize Potential Adverse Impacts of the Project.

With implementation of the mitigation measures listed in Chapter IV, potentially significant impacts due to the project individually and cumulatively would be reduced to a less-than-significant level or eliminated, except for the following:

TRANSPORTATION

The project would cause significant unavoidable impacts with regard to traffic at the following local intersections under Existing-plus-Project conditions and cumulative conditions:

- Harrison Street/Second Street intersection
- Folsom Street/First Street intersections intersection

The project's contribution to cumulative significant traffic impacts at the above intersections would be considerable. Therefore, the project would have a significant, cumulative impact.

HISTORIC ARCHITECTURAL RESOURCES

The project would result in a significant unavoidable project-level impact with regard to historic architectural resources as a result of the proposed demolition of the existing Union Oil Company Building on the project site. The project would also contribute to a significant and unavoidable cumulative impact on architectural resources in the *Rincon Hill Plan* area.

This chapter is subject to final determination by the Planning Commission as part of the certification process for the EIR. The Final EIR will be revised, if necessary, to reflect the findings of the Commission.

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CHAPTER VI

ALTERNATIVES TO THE PROJECT

This chapter identifies alternatives to the project and discusses the environmental effects associated with the alternatives in comparison to the project. San Francisco decision-makers must consider approval of an alternative if that alternative would substantially lessen or avoid significant environmental impacts identified for the project and that alternative is determined feasibly to meet the project objectives. The determination of feasibility will be made by City decision-makers.

The following alternatives are discussed and evaluated in this chapter: a No Project Alternative (Alternative A); the Existing Zoning Alternative (Alternative B), which is an alternative that would comply with existing *Planning Code* requirements, including those pertaining to height and land use density and intensity; and the Preservation Alternative (Alternative C), which would include reduced development and would preserve the existing building complex on the site.

Whether another property is owned or can reasonably be acquired by the project sponsor has a strong bearing on the feasibility of developing a project alternative on a different site. The project sponsor does not have control of other sites in San Francisco of sufficient size and in a location appropriate for development of the project as proposed. No alternative sites have been identified within the City where the project could be constructed that would meet most of the project sponsor's objectives and where the project's significant environmental impacts would be substantially lessened or avoided.

ALTERNATIVE A: NO PROJECT ALTERNATIVE

The California Environmental Quality Act (CEQA) and the State *CEQA Guidelines* require that a No Project Alternative be included in an EIR. One of the purposes of the No Project Alternative is to allow decision-makers to compare the effects of the project with the effects of not approving a project.

DESCRIPTION

Alternative A would entail no change to the site, which would remain in its existing condition. The existing office building, clock tower, and parking garage would not be demolished and no housing or retail space would be constructed. The existing office space on the site could remain vacant or alternatively it may be used. This reflects the existing conditions at the site that are described in the setting sections in Chapter III of this EIR. This alternative would not preclude future proposals for development of the site, including the vacant lot (Lot 1, Block 3765) in the northeast corner, or occupancy of the vacant office space on the site. This alternative would not contribute to the housing supply in the city.

IMPACTS

Under Alternative A, increased population and construction- and operation-related impacts associated with the project would not occur, and none of the mitigation measures applicable to the project would be needed for this alternative. Environmental conditions at the site would continue to be as described in the Setting discussions in Chapter III. Land use, visual quality and urban design, shadow and wind conditions would not change. Because no project excavation or demolition would occur, there would be no construction-related effect associated with archaeological resources, geology and soils, hydrology and dewatering, hazards, energy use, noise, air quality, or transportation. Because no alteration or demolition of the existing structures on the project site would occur, there would be no effects on historic architectural resources, either individually or cumulatively and no mitigation measure would be necessary. Finally, because no changes to development density or general land use type would occur, no changes to population and housing, public services and utilities, wind, recreation or land use would result under this alternative. Alternative A would be less consistent with existing and proposed policies of the *General Plan*, including the *Rincon Hill Plan*, than the project because it would not place tall slender towers at the top of Rincon Hill and would not maximize the number of residential units at the project site. The existing exceedance of the wind hazard criterion at test point no. 65 (Beale and Harrison Streets) may continue under this alternative.

Transportation and air quality conditions would change only to the extent that continued growth in the downtown and in the project vicinity would create future significant cumulative transportation and air quality impacts, and would contribute to air emissions from future traffic growth. However, under Alternative A, activity at the site would not contribute to these cumulative impacts beyond existing incremental contributions associated with the existing development at full occupancy, if occupied.

Alternative A assumes no additional development would occur on the project site but does not preclude development of the site in the future with a range of uses, or combination of uses, allowable as principal or permitted uses in the RC-4 and M-1 Districts and within the Rincon Hill Special Use District (or the proposed Rincon Hill Downtown Residential Mixed Use District, if approved). Other development could be proposed for the whole site or the vacant lot, or the currently vacant office building could be reoccupied.

Table 8 on page 165, which compares alternatives and the project, identifies whether Alternative A impacts would be "greater," "less," or "similar" to those of the project for each of the environmental issues evaluated in this EIR. While this alternative would avoid both of the significant and unavoidable impacts associated with the project, it is not the environmentally superior alternative because the *State CEQA Guidelines* require identification of an "environmentally superior alternative other than the no project alternative" from among the project and the alternatives evaluated. Furthermore, Alternative A would not meet most of the objectives of the project, including providing up to 720 units of high-density housing near downtown and constructing a high-quality residential development that produces a reasonable return on investment for the project sponsor and its investors.

Table 8
Comparison of Project and Alternatives

Environmental Issues	Project	Alternatives: No Project Alternative	Alternatives: Existing Zoning Alternative	Alternatives: Preservation Alternative
Land Use and Zoning	LTS	Less	Less	Less
Visual Quality and Urban Design	LTS	Less	Less	Less
Shadow	LTS	Less	Less	Less
Wind	LTS	Less	Less	Less
Transportation	SU	Less/no SU	Less/SU	Less/no SU
Air Quality	LTS	Less	Less	Less
Historic Architectural Resources	SU	Less/no SU	Similar/SU	Less/no SU
Growth Inducement	LTS	Less	Less	Less
Totals				
Greater Impacts		0	0	0
Less Impacts		8	7	8
Similar Impacts		0	1	0
SU Impacts Eliminated		2	0	2

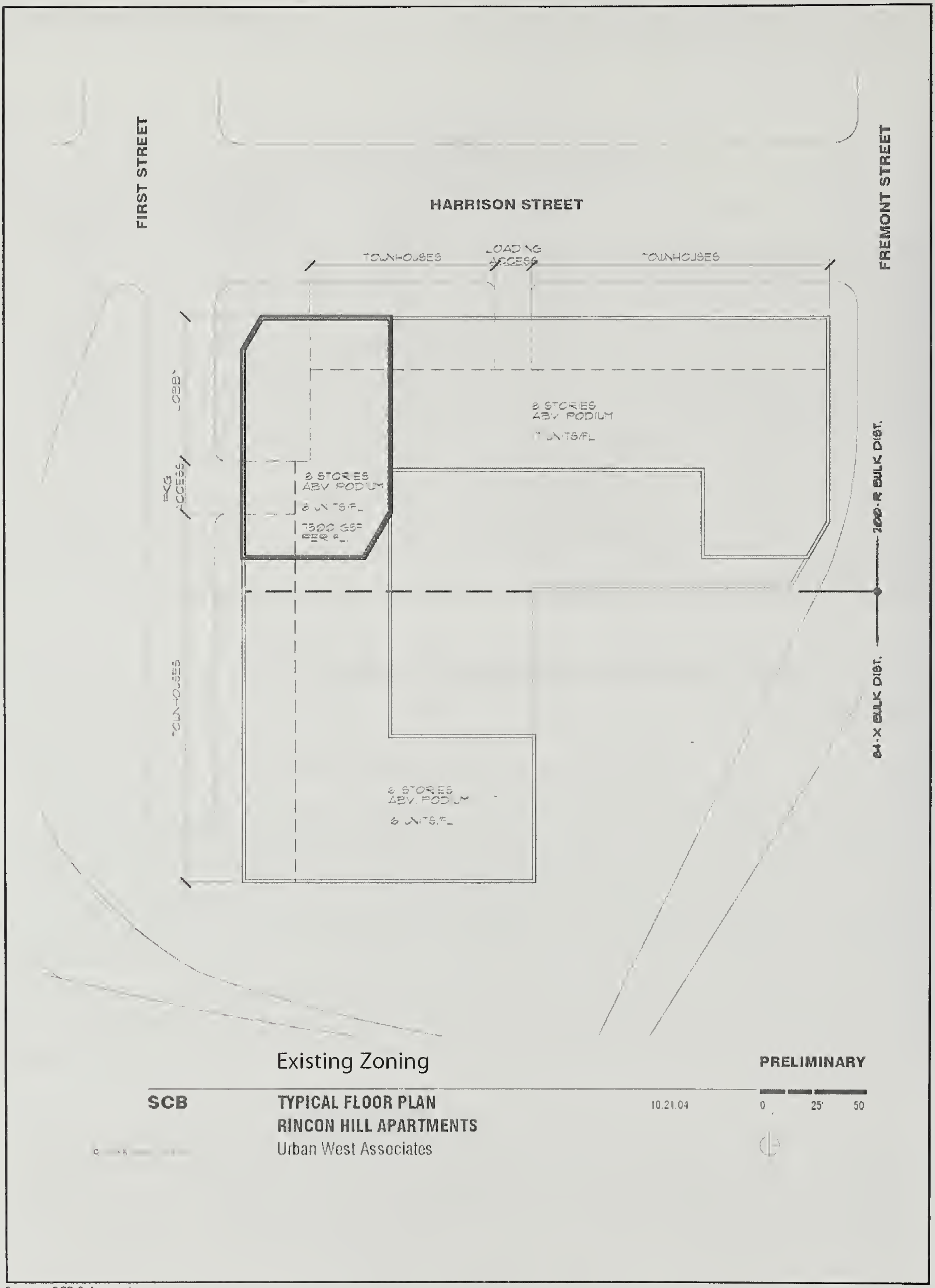
LTS = Less than Significant Impact (no mitigation required)
SU = Significant and Unavoidable Impact (no mitigation available to reduce the impact to a less-than significant level)

ALTERNATIVE B: EXISTING ZONING ALTERNATIVE

DESCRIPTION

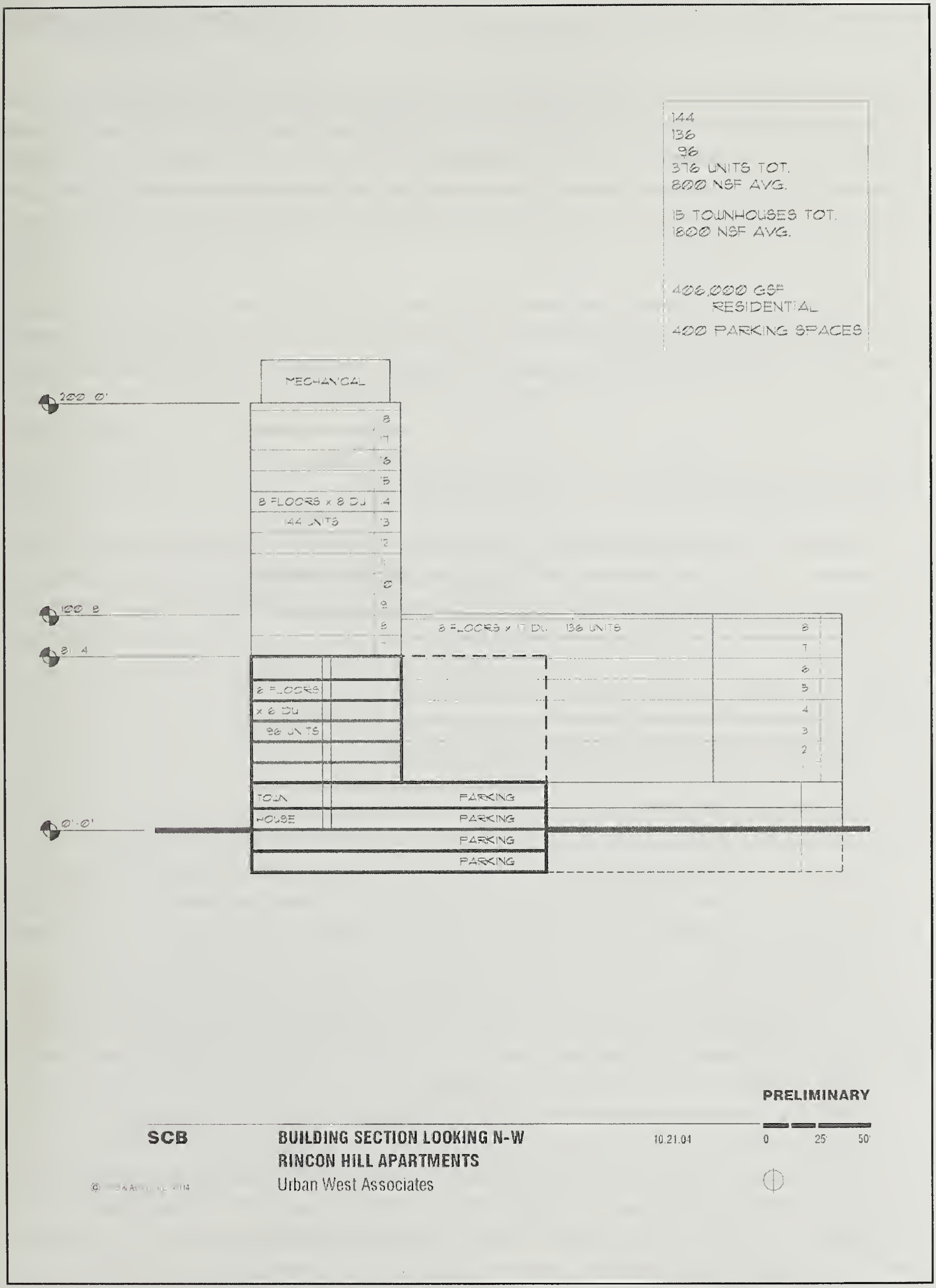
Alternative B would be a mixed-use development similar to the project except that it would have about 45 percent fewer residential units and the same amount of retail space as the project. Alternative B assumes existing zoning, and, thus, would not require a rezoning (including zoning map and zoning text changes) that would change the provisions of the current Rincon Hill Special Use District (*Planning Code* 249.1) as they apply to the site concerning open space, residential density, and non-individually accessible parking access. This alternative would not increase the site's two height limits or modify the site's bulk controls. This alternative would include demolition of the existing structures on the site and development of a total of about 391 units in one 200-foot tall tower, two mid-rise buildings, and townhouses (see Figures 52 and 53, pages 166-167), compared to 720 units with the project in two towers with heights of 450 and 550 feet and associated townhouse development. Alternative B would contribute 329 fewer units to the housing supply in the city than the project.

For Alternative B, the tower, which would be located at the corner of Harrison and First Streets (Lot 19, Block 3765), would be approximately 200 feet tall in 18 stories and would include about 144 residential units. The tower would be more than 150 feet from the closest existing tower at 333 First Street. Like the project, the tower would include about 3,220 square feet (sq. ft.) of ground-floor retail space. However, this alternative would be less intense in the use of the site due to 45 percent fewer residences than the project.



Source: SCB & Assoc., Inc.

Figure 52 - Alternative B: Existing Zoning, Site Plan



Source: SCB & Assoc., Inc.

Figure 53 - Alternative B: Existing Zoning, Section from First Street

A mid-rise building would be located along Harrison Street that would include 136 units in eight stories and would be approximately 105 feet tall. A second mid-rise building would be situated on First Street and would provide 96 units in six stories and would be approximately 85 feet tall. A total of 15 townhouses would also be constructed as part of the approximately 20-foot-tall podium upon which the three buildings would sit. The townhouses would have frontage along Harrison and First Streets. The unit mix of this alternative would be proportionally the same as the project.

Vehicular circulation would function in substantially the same manner as the project, with a parking garage accessed on First Street and a loading area accessed on Harrison Street. The garage would include about 391 individually accessible spaces, therefore meeting the existing *Planning Code* requirements and exceeding the 360 individually accessible spaces included in the project by 31 spaces. However, the project, which would include 720 parking spaces with car lifts, would have more parking spaces overall. Pedestrian access to the project site would be the same as under the project, with a central entrance for the towers from the First Street right-of-way and separate entrances for the townhouses.

As with the project, this alternative would also require either a revocable encroachment permit or a street improvement permit from the Department of Public Works (DPW) for the proposed use of the First Street right-of-way, as well as separate approval from DPW and the Department of Parking and Traffic (DPT) for the provision of new curb cuts for entry to parking and the new entrance turnaround and drop-off (on First Street); new entry to a loading dock accessed from Harrison Street; and replacement of curbs, gutters, and sidewalks (on Harrison Street).

IMPACTS

This alternative would have similar effects on land use as the project because it would introduce the same type of land use that is proposed with the project (see Table 8, page 165). Impacts would be generally less due to the smaller size of the development. Alternative B would have fewer physical impacts compared to the larger development under the proposed project. However, it would be less responsive to existing and proposed objectives and policies of the *General Plan*, including the *Rincon Hill Plan*, than the project because it would not place tall slender towers at the top of Rincon Hill and would not maximize the number of residential units at the project site. This alternative would have a similar appearance as the project buildings in terms of architectural style and materials, but would be substantially shorter and less slender (a smaller proportion of height to width) than the project with its slender towers. From short- and mid-range views, this alternative would be less prominent and substantially smaller, as it would include only one tower and that tower would be less than half the height of the shorter of the project's two towers. From long-range views, this alternative would be more consistent with the predominant existing heights (of mid-rise buildings) in the area due to its shorter building and less overall volume; its massing would be bulkier than the two proposed towers. Like the project, this alternative would partially block drivers' views of the Bay Bridge towers from I-80 eastbound. Like the project, this alternative would result in the demolition and, thus, loss of the existing clock tower, a familiar visual landmark to commuters and visitors to San Francisco. Alternative B tower would be a midrise that is more similar in height with existing and newly constructed buildings in the vicinity and, thus, more in visual context with the existing low-rise and mid-rise environment.

As for cumulative visual impacts, both the project towers and Alternative B tower would be in visual context once the proposed *Rincon Hill Plan* area and the Transbay Redevelopment Project area become built out, leading to a more intense urban character that consists of primarily highrise and midrise buildings. Alternative B would not respond to the goals contained in the *Rincon Hill Plan* and the *General Plan* to the same extent that the project would, which call for projects to respect the topography and allow for increased height on the top of Rincon Hill.

Alternative B would have less shadow on some sidewalks. The total length in shadow would be reduced slightly less than in proportion to its reduction in height when compared to the project's 550-foot-tall tower, which would be located further south on the west end of the project site than the Alternative B tower. The width of shadow would also be substantially less because this alternative would include only the one tower, rather than two.

Because the Alternative B tower would be less than half the height of the shorter of the project's two towers, Alternative B would generally result in fewer wind speed increases and more wind speed decreases than the project. Because the Alternative B tower would not be set back from the street, these improvements are not expected to be substantial (see Appendix B). Alternative B would not be expected to result in any new exceedances of the wind hazard criterion. Alternative B would be expected to result in less-than-significant wind effects.

Alternative B would generate about 198 net new weekday p.m. peak hour vehicles trips, of which 141 would be inbound to the project site and 57 would be outbound, about 47 percent fewer vehicle trips than would be generated by the project.[1] Alternative B would add vehicles to the same four intersections operating at unacceptable levels under existing conditions as would the project. Level of service (LOS) would remain the same at these intersections under this alternative as compared to the project. Thus, volume-to-capacity is provided to distinguish the difference in traffic generation. Like the project, although to a lesser degree, Alternative B would increase the volume-to-capacity ratio at three of those intersections (Folsom/First, Harrison/Second, and Harrison/First). In contrast to the project, this alternative would not substantially worsen operations at the Harrison/Second intersection under near-term and 2020 cumulative conditions and, therefore, would avoid a significant impact under project-specific and cumulative scenarios. However, this alternative, like the project, would contribute substantially to the First/Folsom intersection under near-term and 2020 cumulative conditions and, therefore, would result in a significant unavoidable traffic impact under both scenarios. As discussed in Chapter IV, there are no feasible mitigation measures that would improve conditions at the affected intersections to a less-than-significant level of impact. Therefore, no mitigation or improvement measures have been identified for this alternative.

This alternative would generate 90 new transit trips during the weekday p.m. peak hour, about 52 percent fewer transit trips than would be generated by the project. As with the project, this alternative would have less-than-significant effects on transit. Parking included in Alternative B would be consistent with the Code

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[1] The information in this section is from the One *Rincon Hill Project – Existing Zoning Alternative Travel Demand Memorandum*, LCW Consulting, November 2, 2004. This Memorandum is available for public review by appointment at the San Francisco Planning Department, in Project File No. 2003.0029E.

requirement but would result in a shortfall of 180 spaces during the evening hours and a shortfall of 197 spaces during the weekday midday hours, compared to estimated demand. Like the project, these shortfalls would be a less-than-significant impact. Like the project, this alternative would result in less-than-significant pedestrian, bicycle, and loading impacts. Like the project, although lesser in number but more than under existing conditions, pedestrians and bicyclists would cross the intersection of Harrison Street/First Street, which at some hours can present vehicle-pedestrian safety conflicts. This is not considered a significant impact, and no mitigation measures are required.

As a result of lower traffic volumes, this alternative would result in lower air emissions associated with vehicles. Like the project, operations associated with this alternative would have less-than-significant effects on air quality.

Because this alternative would result in the demolition of the existing historic structure on the project site, this alternative would result in the same significant and unavoidable impacts on historic architectural resources as would the project. Therefore, the Historical Architectural Resources mitigation measure for the project would also apply to Alternative B. Under the mitigation measure, the project sponsor shall provide historical documentation of the Union Oil Company Building. Details of the documentation are discussed in Chapter IV. However, because destruction of the historic structures cannot be avoided, the project-specific and cumulative impacts would remain significant and unavoidable even with this mitigation measure.

As with the project, Alternative B would not cause significant population or growth inducement impacts. Effects of the alternative on noise, utilities/public services, biology, geology, water, energy, hazards, and archaeological resources would be similar to or proportionally less than the project (see Appendix A: Notice of Preparation/Initial Study).

Alternative B would result in less severe construction-related impacts than the project, because there would be one smaller tower and one construction phase compared to two taller towers in two phases as with the proposed project. Construction-related effects would be temporary in nature, associated with delays for both vehicular and MUNI operations from lessening of local street capacities, increases in non-PM peak hour traffic associated with construction worker-related trips, reduction of parking, construction noise and dust, potential hazards from encountering hazardous materials, and potential damage to unknown, buried archaeological resources. As with the project, construction-related traffic effects would be considered less than significant and no mitigation measures would be required. Similar to the project, mitigation measures developed to address Construction Air Quality, Hazards, and Archaeological Resources would apply to Alternative B and would reduce these impacts to a less-than-significant level. Details of these mitigation measures are provided in Chapter IV of this EIR.

As shown in Table 8, page 165, Alternative B would produce fewer vehicular trips than the proposed project and would lessen the associated traffic and air quality impacts. This alternative would also result in shorter structures that would integrate with the existing surrounding visual quality of the area (characterized predominately by mid-rise buildings) and would generate less shadow than the project, thereby resulting in less of those impacts; these impacts, excluding traffic, would be less than significant under both the project and this alternative. This alternative would avoid the significant unavoidable traffic impacts that would occur with the project at one intersection (Harrison/Second), and less project-specific and cumulative traffic impacts at the intersection of First/Folsom for Existing-plus-Project and cumulative conditions. The alternative would, overall, result in fewer and less intense effects associated with a smaller development.

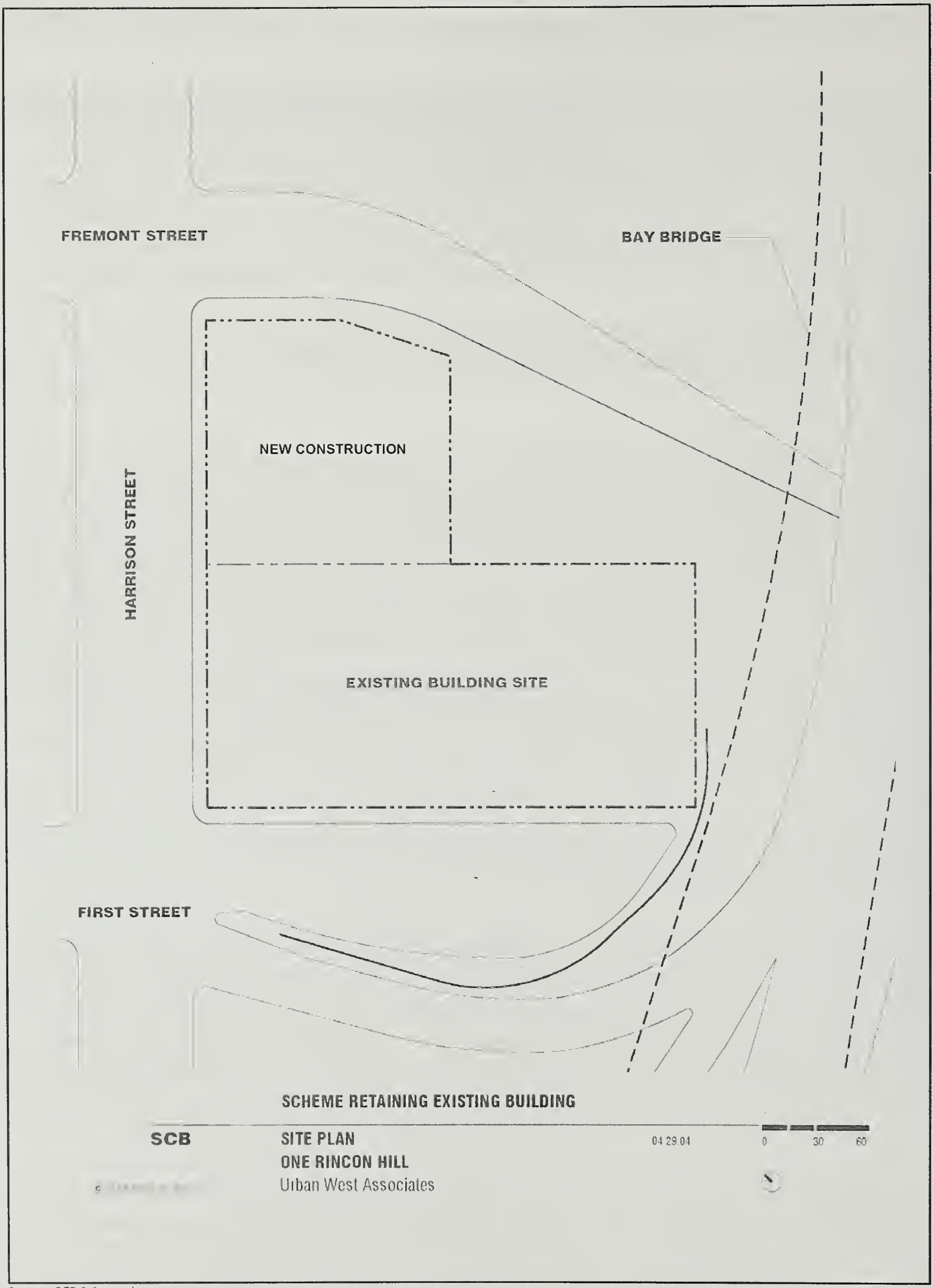
Alternative B would not meet all of the project's objectives in that it would result in 45 percent fewer residential units than the project and would not produce a reasonable return on investment for the project sponsor and its investors.

ALTERNATIVE C: PRESERVATION ALTERNATIVE

DESCRIPTION

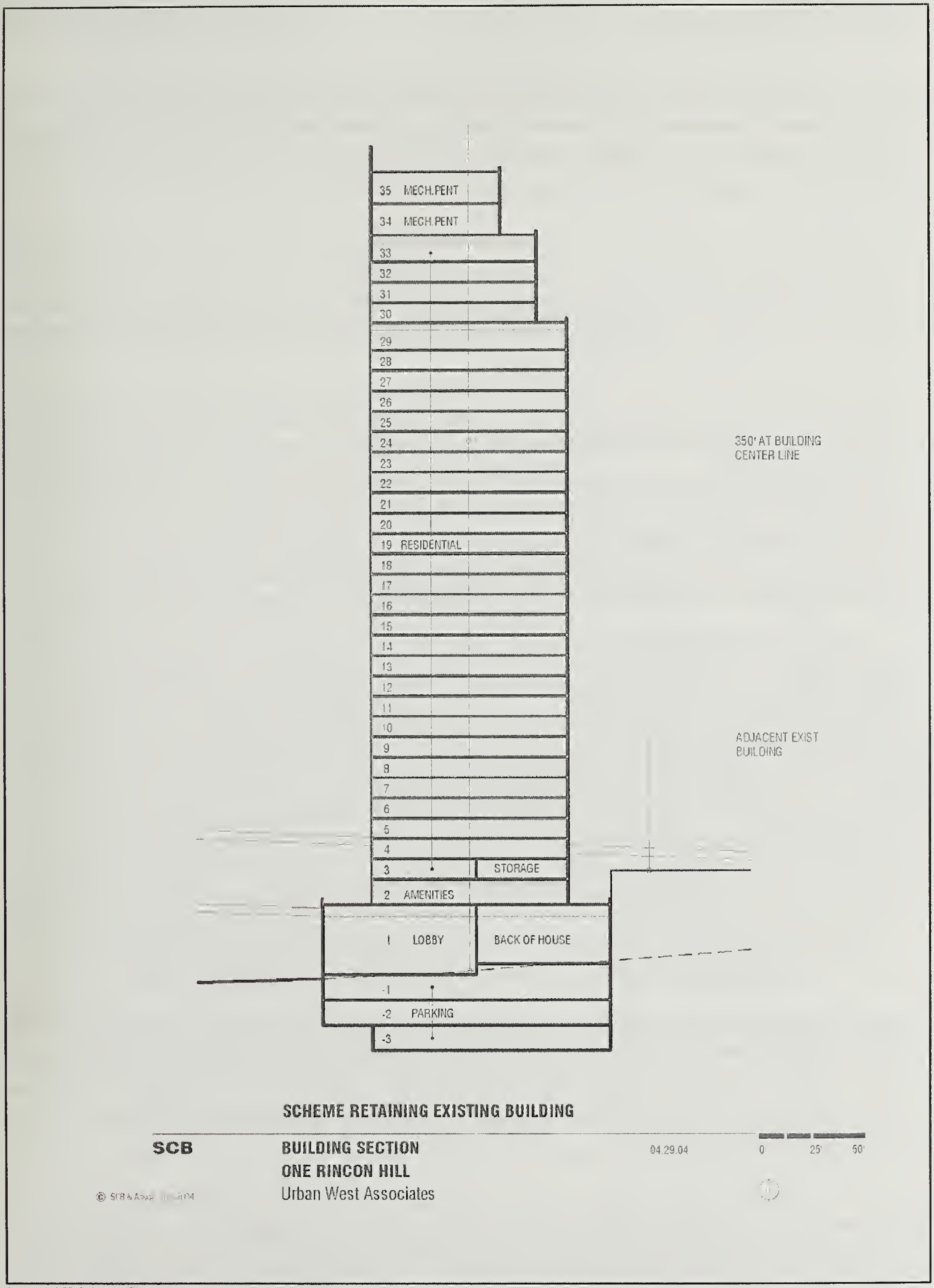
Alternative C would preserve the existing office building on the site, including its related clock tower and parking structure, and construct a residential tower on the vacant portion of the site (see Figures 54-55, pages 172-173). Although demolition of the parking garage would not be considered a significant impact, it would be more feasible for the project sponsor to retain the garage and convert it to residential parking. The tower, which would be located at the southwest corner of Harrison and Fremont Streets (Lot 1, Block 3765), would be approximately 350 feet tall in 35 stories and would include 255 residential units. Rezoning or adoption of the proposed *Rincon Hill Plan* controls would be required to permit this building height. The tower would sit atop an approximately 40-foot-tall base and would be set back approximately 30 feet from Harrison Street and approximately 25 feet from the Harrison Street off-ramp. A double-height ground floor would be devoted to lobby and accessory residential support uses, the second level would be tenant amenities, one half of the third level would be storage space, and the top two stories of the tower would be penthouse mechanical space. This alternative would not include any retail space, in contrast to the project, because there would not be sufficient space in the ground floor to accommodate retail areas. This alternative assumes that the existing building's 75,816 square feet of office space would return to office use. Alternative C would include approximately 465 fewer units than the project.

Parking would be provided in three below-ground levels (60 spaces) and the existing 86-space, three-level parking garage fronting Harrison Street. The total of 146 parking spaces would not meet the existing *Planning Code* requirements for 306 individually accessible spaces, with a net parking space shortage of 160 spaces; thus, a variance would probably be needed. This alternative would have 214 fewer individually accessible spaces than included in the project. The existing garage would be shared by the residential and offices uses, with 14 spaces reserved for office tenants and the remaining 200 spaces reserved for residential tenant use. Vehicular access to parking, as well as to two off-street loading spaces, would be from Harrison Street. The primary pedestrian access to the tower would be from Harrison Street. A 60-foot-long passenger loading/unloading zone would be provided along Harrison Street adjacent to a residential lobby east of the garage and loading dock entrance, subject to approval by Department of Parking and Traffic. Like the project, Alternative C would require a rezoning (including zoning map and zoning text changes) for the site that would change the provisions of the current Rincon Hill Special Use District (*Planning Code* 249.1) as they apply to the site concerning open space, residential density, parking, and the northern portion of the site's



Source: SCB & Assoc., Inc.

Figure 54 - Alternative C: Preservation, Site Plan



Source: SCB & Assoc., Inc.

Figure 55 - Alternative C: Preservation, Section from Harrison Street

height limit (which would have to be increased from 200 feet to 350 feet). As with the project, this alternative would also require approval from DPW and DPT for the provision of new curb cuts for entry to parking; new entry to loading dock accessed from Harrison Street; replacement of curbs, gutters, and sidewalks (on Harrison Street), and white zone on Harrison Street.

IMPACTS

Alternative C would be distinct from the project in that it would result in a mix of residential, office, and parking uses on the project site, and would provide approximately seventy percent fewer residential units and 214 fewer independently-accessible parking spaces.

This alternative would have similar but less effect on land use as would the project because it would introduce the same type of new uses as would the project, but to a lesser degree. However, this alternative would not remove the existing building complex from the site as compared to the project, which would demolish it. There would be less intensive residential development than with the project. Alternative C would be less responsive to existing and proposed policies of the *General Plan*, including the *Rincon Hill Plan*, than the project because it would not place two tall slender towers at the top of Rincon Hill and would not maximize the number of residential units at the project site. However, these are not considered significant impacts.

The residential tower that would be constructed with this alternative would have a similar appearance as the project buildings in terms of its architectural style and materials. From long-range views, this alternative would be more consistent with the predominant existing heights (of mid-rise buildings) in the area due to its shorter building and lower overall volume. Like the project, the tower would partially block drivers' views of the Bay Bridge towers from eastbound I-80, but to a lesser degree as it would be shorter than the shortest project tower. In contrast to the project, this alternative would not result in the demolition and thus loss of the existing clock tower, a familiar visual landmark to many commuters and visitors. Alternative C tower would be substantially shorter and less slender (a smaller proportion of height to width) than the project's towers. From short- and mid-range views, this alternative would be less prominent and appear smaller, since it would include only one tower and that tower would be 100 feet shorter than the project north tower and approximately 250 feet shorter than the project south tower (200 feet of building height difference and 50 feet of site elevation difference). Alternative C tower would be a 35-story highrise that would be more similar in height with existing and newly constructed buildings in the vicinity, such as the 20-story Avalon Towers at 388 Beale Street and the 21- and 26-story Metropolitan at 333 First Street, the 21- and 26-story Bridgeview Towers, as well as with recently approved projects such as the 35- and 40-story twin-tower at 300 Spear street (400 feet in height). Thus, it would be in more visual context with the existing low-rise and mid-rise environment than the project towers.

As for cumulative visual impact, both the project towers and Alternative C tower would remain in visual context once the proposed *Rincon Hill Plan* area and the Transbay Redevelopment Project area become built out, leading to a more intense urban character that consists of primarily highrise and midrise buildings. It is noted that Alternative C would not follow the topography and would not result in increased building height on the top of Rincon Hill, as called for in the *General Plan*.

Alternative C would have less shadow on some sidewalks. The total length in shadow cast by this alternative's tower and the existing office building and clock tower would be reduced in proportion to its reduction in height when compared to the project's two taller towers. The width of shadow would also be substantially less because this alternative would include only the one tower, rather than two.

Because the Alternative C tower would be shorter than the project towers, Alternative C would result in fewer wind speed increases and more wind speed decreases than the project (see Appendix B). The Alternative C tower would not be expected to result in any new exceedances of the wind hazard criterion. Alternative C would be expected to result in less-than-significant wind effects.

Alternative C would generate 136 weekday p.m. peak hour vehicles trips of which 90 would be inbound to the project site and 46 would be outbound, about 60 percent fewer vehicle trips than would be generated by the project.[2] Alternative C would add vehicles to the same four intersections operating at unacceptable levels under existing conditions that the project would. LOS would remain the same at these intersections as the project but the volume-to-capacity[3] would be different between these scenarios. Like the project, although to a lesser degree, Alternative C would increase the volume-to-capacity ratio at three of those intersections (Folsom/First, Harrison/Second, and Harrison/First). In contrast to the project, this alternative would not substantially worsen operations at these intersections under near-term or 2020 cumulative conditions; Therefore, no significant traffic impacts would result under the project or cumulative scenario. This alternative would generate 76 new transit trips during the weekday p.m. peak hour, about 60 percent fewer transit trips than would be generated by the project. As with the project, this alternative would have less-than-significant effects on transit. Parking included in Alternative C would result in a shortfall of 193 spaces during the evening hours and a shortfall of 128 to 193 spaces during the weekday midday hours, compared to estimated demand. Like the project's parking shortfalls, this would be a less-than-significant impact. Like the project, this alternative would also result in less-than-significant pedestrian, bicycle, and loading impacts. Like the project, although lesser in number, pedestrians and bicyclists would cross the intersection of Harrison Street/First Street, which at some hours can present vehicle-pedestrian safety conflicts. This is not considered a significant impact. As a result of lower traffic volumes, this alternative would result in proportionally lower air emissions associated with vehicles. Like the project, this alternative would have less-than-significant effects on air quality, with the implementation of Construction Air Quality mitigation measure.

Because Alternative C would preserve all of the existing structures on the project site, this alternative would avoid the significant unavoidable impact on historic architectural resources that would occur with the project; no mitigation measures would be necessary. Any alteration of the building must meet the Secretary of the Interior's Standards for Rehabilitation[4] (Department of Interior regulations, 36 CFR 67). The intent of the Standards is to assist the long-term preservation of a property's significance through the preservation of

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[2] The information in this section is from the One *Rincon Hill Transportation Study – Final Report* , LCW Consulting, December 7, 2004. This document is available for public review by appointment at the San Francisco Planning Department, in Project File No. 2003.0029E.

[3] Volume to capacity ratio is defined as a measure of congestion.

[4] The Secretary of the Interior defines rehabilitation as "the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values" (see http://www.cr.nps.gov/hps/tps/tax/rhb/stand.htm)

historic materials and features. The Standards pertain to historic buildings of all materials, construction types, sizes, and occupancy and encompass the exterior and interior of the buildings. Because this alternative would involve excavation, the Archaeological Resource mitigation measure would be applicable to reduce the impact to a less-than-significant level.

As with the project, Alternative C would not cause significant population or growth inducement impacts. Effects of the alternative on noise, utilities/public services, biology, geology, water, energy, hazards, and archaeological resources would be similar to or less severe than the project (see Appendix A: Notice of Preparation/Initial Study).

Construction-related effects would result from implementation of this Alternative. However, due to the reduced amount of development, as well as excavation, such effects would be less than would occur from the project. Construction-related impacts would be temporary in nature, associated with delays for both vehicular and MUNI operations from lessening of local street capacities, increases in non-PM peak hour traffic associated with construction worker-related trips, reduction of parking, increases in construction noise and dust, potential hazards from encountering hazardous materials, and potential damage to unknown, buried archaeological resources. Similar to the project, construction-related traffic effects would be considered less than significant and no mitigation measures would be required. Similar to the project, mitigation measures developed to address increases in particulate emissions, as well as the potential encountering of hazardous materials and buried archaeological resources, would be applicable to Alternative C. Details of these mitigation measures are provided in Chapter IV of this EIR.

Table 8, page 165, identifies whether each of the Alternative C impacts would have "greater," "less," or "similar" impacts as the project for each of the environmental issues evaluated in this EIR. Alternative C would be environmentally superior to the project because it would preserve the Union Oil Company Building. Development of the Alternative C buildings on the project site is not expected to affect the historic significance, as defined by the Secretary of the Interior, of the Union Oil Company Building, which is important for its architectural style and its association with an important architect, rather than for its location or setting. Thus, this alternative would avoid the significant unavoidable impact of demolition of the Union Oil Company Building.

Alternative C would not meet the project's objectives to replace an underutilized low-rise commercial office building and surface parking lot with new structures that will provide badly needed housing units for the San Francisco market; provide up to 720 units of high-density housing near downtown, and construct a high-quality residential development that produces a reasonable return on investment for the project sponsor and its investors.

CONCLUSION

CEQA requires the identification of an environmentally superior alternative. If the "No Project" alternative is determined to be the environmentally superior alternative, CEQA requires that the EIR identify an environmentally superior alternative among the other alternatives evaluated. Based solely on the listing of lesser and greater impacts and avoidance of the proposed project's significant and unavoidable impacts, as identified in Table 8, page 165, the No-Project Alternative (Alternative A) would appear to be the environmentally superior alternative, as all significant and unavoidable of the proposed project would be avoided.

Alternative B, the Existing Zoning Alternative, would have similar impacts as the proposed project, but less severe. Impacts related to historic architectural resources and traffic would remain significant and unavoidable.

Alternative C, the Preservation Alternative, would have less severe impacts than the proposed project and would avoid significant unavoidable impacts related to historic architectural resources (by preserving the existing office building and clock tower) and traffic. Therefore, the Preservation Alternative would have the fewest significant unavoidable impacts, and less severe impacts overall, compared to the project and the Existing Zoning Alternative.

Based on the above, the No Project Alternative (Alternative A) would be the environmentally superior alternative. However, as mentioned above, if the No Project alternative is determined to be the environmentally superior alternative, CEQA requires that the EIR identify an environmentally superior alternative among the other alternatives evaluated. Therefore, given that Alternative C has fewer significant unavoidable impacts, and less severe impacts overall, Alternative C is identified as the environmentally superior alternative among the development alternatives evaluated in the EIR.

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CHAPTER VII

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Case No. 2003.0029E

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Attn: Building Manager
(250 public notices for occupants)
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San Francisco, CA 94105

Avalon Towers by the Bay
Attn: Building Manager
(230 public notices for occupants)
388 Beale Street
San Francisco, CA 94105

Occupant
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355 First Street Unit #S202
San Francisco, CA 94105

Occupant
Metropolitan
355 First Street Unit #S206
San Francisco, CA 94105

Occupant
Metropolitan
355 First Street Unit #S207
San Francisco, CA 94105

Occupant
Metropolitan
355 First Street Unit #S208
San Francisco, CA 94105

Occupant
Metropolitan
355 First Street Unit #S209
San Francisco, CA 94105

Occupant
Metropolitan
355 First Street Unit #S301
San Francisco, CA 94105

Occupant
Metropolitan
355 First Street Unit #S302
San Francisco, CA 94105

Occupant
Metropolitan
355 First Street Unit #S303
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Occupant
Metropolitan
355 First Street Unit #S304
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Occupant
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355 First Street Unit #S305
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355 First Street Unit #S306
San Francisco, CA 94105

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355 First Street Unit #S307
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355 First Street Unit #S308
San Francisco, CA 94105

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355 First Street Unit #S309
San Francisco, CA 94105

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Metropolitan
355 First Street Unit #S310
San Francisco, CA 94105

Occupant
Metropolitan
355 First Street Unit #S401
San Francisco, CA 94105

Occupant
Metropolitan
355 First Street Unit #S402
San Francisco, CA 94105

Occupant
Metropolitan
355 First Street Unit #S403
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Occupant
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355 First Street Unit #S404
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Occupant
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Occupant
Metropolitan
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Mr. or Ms. Husain
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Studio West Design
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Mr. or Ms. Yu
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Mr. or Ms. Raspa
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T. Young
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Mr. or Ms. Vaughn
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C. Irwins
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C. Cathers
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Mr. or Ms. Acosta
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B. Smith
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Todd Jenks
346 First Street
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Jamie Froehling
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Occupant
361 First Street
San Francisco, CA 94105

Café Maritime
375 First Street
San Francisco, CA 94105

76 Service Station
346 First Street
San Francisco, CA 94105

Marine Engineer Union
340 Fremont Street
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American Maritime Offices
350 Fremont Street
San Francisco, CA 94105

Fusion DM
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San Francisco, CA 94105

Prior Beverly Architects & Trius
375 Fremont Street
San Francisco, CA 94105

4Charity.com
385A Fremont Street
San Francisco, CA 94105

San Francisco Auto Body Inc.
385 Fremont Street
San Francisco, CA 94105

Grande Vitesse Systems Inc.
390 Fremont Street
San Francisco, CA 94105

A Man's Place
399 Fremont Street
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Del Campo & Maru
45 Lansing Street
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H&O Properties
75 Lansing Street
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R. Hylton
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A. McDonald
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S. Omalley
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New View Films Inc.
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81 Lansing Street
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Ralph Osterhout
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29B Guy Place
San Francisco, CA 94105

Mr. or Ms. Ursino
81 Lansing Street
San Francisco, CA 94105

M.A. Robertson
81 Lansing Street
San Francisco, CA 94105

Occupant
29 Guy Place
San Francisco, CA 94105

T. Zsombory & F. Murphy
81 Lansing Street
San Francisco, CA 94105

Mr. or Ms. Park
81 Lansing Street
San Francisco, CA 94105

Occupant
31B Guy Place
San Francisco, CA 94105

Occupant
29A Guy Place
San Francisco, CA 94105

Voice Factory
81 Lansing Street
San Francisco, CA 94105

Pangaea Trading
330 Bryant Street
San Francisco, CA 94107

Occupant
31 Guy Place
San Francisco, CA 94105

Occupant
15 Guy Place
San Francisco, CA 94105

PTB Concrete
510 Harrison Street
San Francisco, CA 94105

Occupant
31C Guy Place
San Francisco, CA 94105

Occupant
29C Guy Place
San Francisco, CA 94105

Occupant
521 Harrison Street
San Francisco, CA 94105

South Beach Homeless Research Center
320 Harrison Street
San Francisco, CA 94105

Occupant
31A Guy Place
San Francisco, CA 94105

Myhomekey.com
511 Harrison Street
San Francisco, CA 94105

Charrette Design
340 Bryant Street
San Francisco, CA 94107

Occupant
515 Harrison Street
San Francisco, CA 94105

D&G Processing
522 Harrison Street
San Francisco, CA 94105

Sailor's Union
450 Harrison Street
San Francisco, CA 94105

Occupant
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CHAPTER VIII

APPENDICES

APPENDIX A: Notice of Preparation/Initial Study EIR Requirement

APPENDIX B-1: Technical Memorandum: Potential Wind Conditions

APPENDIX B-2: Technical Memorandum: Potential Wind Conditions for 2 Alternative Designs of Project

APPENDIX B-3: Technical Memorandum: Wind Tunnel Mitigation Testing

APPENDIX B-4: Technical Memorandum: Consideration of Project Effect on Winds on Bay Bridge

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A. NOTICE OF PREPARATION/INITIAL STUDY EIR REQUIREMENT

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PLANNING DEPARTMENT

City and County of San Francisco • 1660 Mission Street, Suite 500 • San Francisco, California • 94103-2414

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June 5, 2004

To Responsible Agencies, Trustee Agencies, and Interested Parties:

RE: CASE NO. 2003.0029E – ONE RINCON HILL RESIDENTIAL DEVELOPMENT NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT

A Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the above-referenced project, described below, has been issued by the Planning Department. An Initial Study has also been prepared to provide more detailed information regarding the proposed project and the environmental issues to be considered in the Draft EIR. The NOP/Initial Study is either attached or is available upon request from **Carol Roos**, who you may reach at **(415) 558-5981** or at the above address. This notice is being sent to you because you have been identified as potentially having an interest in the project or the project area.

Project Description: The One Rincon Hill Residential Development would involve the demolition of the Bank of America office building, garage, and clock tower, totaling about 84,000 gross square feet (gsf), and construction of a residential development with 703 units in two towers (one 450 and one 550 feet tall) and 17 townhouses, totaling 720 units in approximately 895,740 gsf of residential space. The project would also include about 169,180 gsf of parking, 3,550 gsf of ground-floor retail, and 62,810 gsf for additional uses, such as lobbies, fitness, mechanical, management, and loading. In total, the project would provide about 1,131,280 gsf of building space. The project would also provide about 49,000 square feet of private and common open space and 19,000 square feet of publicly accessible open space. The site is located on Assessor's Block 3765, Lots 1, 9, and 15 on the block bounded by Harrison Street to the north, First Street to the west, the Bay Bridge West Approach to the south, and the Fremont Street off-ramp to the east. A total of 375 independently accessible parking spaces would be provided in a six-story above- and below-ground garage; lifts could be installed in the garage to approximately double the number of parking spaces. Two full-size loading spaces would be located on the ground level, accessible from Harrison Street. The project site is zoned RC-4 (Residential-Commercial-Combined, High-Density) and M-1 (Light Industrial) and is within the Rincon Hill Special Use District (SUD) currently planned for revision. The site is within a 200-R and an 84-X Height and Bulk District. If the separately proposed Rincon Hill Plan and Mixed Use District were not adopted, the project would require rezoning concerning the percentage of common open space and to allow the proposed residential density, as well as for a Height and Bulk District reclassification.

As stated in the NOP, the Planning Department has determined that an EIR must be prepared for the proposed project prior to any final decision regarding whether to approve the project. The purpose of the EIR is to provide information about potential significant physical environmental effects of the proposed project, to identify possible ways to minimize the significant effects, and to describe and analyze possible alternatives to the proposed project. Preparation of an NOP or EIR does not indicate a decision by the City to approve or to disapprove the project. However, prior to making any such decision, the decision makers must review and consider the information contained in the EIR.

Comments concerning the scope of the EIR are welcomed. In order for your concerns to be fully considered throughout the environmental review process, we would appreciate receiving them by **July 6, 2004**. Written comments should be sent to Joan A. Kugler, Senior Planner, San Francisco Planning Department, 1660 Mission Street, Suite 500, San Francisco, CA 94103.

If you work for an agency that is a Responsible or a Trustee Agency, we need to know the views of your agency as to the scope and content of the environmental information that is relevant to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR when considering a permit or other approval for this project. We will also need the name of the contact person for your agency.

If you have questions concerning environmental review of the proposed project, please contact Carol Roos at 558-5981.

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT

Date of this Notice:	June 5, 2004
Lead Agency:	Planning Department, City and County of San Francisco 1660 Mission Street, 5th Floor, San Francisco, CA 94103-2414
Agency Contact Person:	Carol Roos **Telephone:** (415) 558-5981

Project Title: 2003.0029E: One Rincon Hill Residential Development (formerly 425 First Street)
Project Sponsor: Rincon Ventures, L.L.C.
Project Contact Person: Steven L. Vettel, Attorney, (415) 268-6171

Project Address:	425 First Street	**Assessor's Block and Lots:** Block 3765; Lots 1, 9, & 15
City and County:	San Francisco	

Project Description: The One Rincon Hill Residential Development would involve the demolition of the Bank of America office building, garage, and clock tower, totaling abour 84,000 gross square feet (gsf), and construction of a residential development with 703 units in two towers (one 450 and one 550 feet tall) and 17 townhouses, totaling 720 units in approximately 895,740 gsf of residential space. In addition to the residential space, the project would include about 169,180 gsf of parking, 3,550 gsf of ground-floor retail, and 62,810 for additional uses, such as lobbies, fitness, mechanical, management, and loading. In total, the project would provide about 1,131,280 gsf of building space. The project would also provide about 49,000 square feet of private and common open space and 19,000 square feet of publicly-accessible open space. The site is located on Assessor's Block 3765, Lots 1, 9, and 15 on the block bounded by Harrison Street to the north, First Street to the west, the Bay Bridge West Approach to the south, and the Fremont Street off-ramp to the east. A total of 375 independently accessible parking spaces would be provided in a six-story above- and below-ground garage; lifts could be installed in the garage to approximately double the number of parking spaces. Two full-size loading spaces would be located on the ground level and would be accessible from Harrison Street. The project site is zoned RC-4 (Residential-Commercial-Combined, High-Density) and M-1 (Light Industrial) and is within the Rincon Hill Special Use District (SUD) currently planned for revision. The site is within a 200-R and an 84-X Height and Bulk District. If the separately proposed Rincon Hill Plan and Mixed Use District were not adopted, the project would require rezoning concerning the percentage of common open space and to allow the proposed residential density as well as for a Height and Bulk District reclassification, and to provide parking spaces that are not all independently accessible.

THIS PROJECT MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT AND AN ENVIRONMENTAL IMPACT REPORT IS REQUIRED. This determination is based upon the criteria of the Guidelines of the State Secretary for Resources, Sections 15063 (Initial Study), 15064 (Determining Significant Effect), and 15065 (Mandatory Findings of Significance), and the following reasons, as documented in the Environmental Evaluation (Initial Study) for the project, which is attached.

Written comments on the scope of the EIR will be accepted until the close of business on July 6, 2004. Written comments should be sent to: Joan Kugler, Senior Planner, San Francisco Planning Department, 1660 Mission Street, Ste. 500, San Francisco, CA 94103.

State Agencies: We need to know the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR when considering a permit or other approval for this project. Please include the name of a contact person in your agency. Thank you.

June 3, 2004
Date

Joan A. Kugler for
Paul E. Maltzer, Environmental Review Officer

ONE RINCON HILL RESIDENTIAL DEVELOPMENT
(FORMERLY 425 FIRST STREET)
INITIAL STUDY
2003.0029E

I. PROJECT DESCRIPTION

The project site, Lots 1, 9, and 15 in Assessor's Block 3765, is located in the Rincon Hill neighborhood of San Francisco on the block bounded by Harrison Street to the north, First Street to the west, the Bay Bridge West Approach to the south, and the Fremont Street off-ramp to the east (see Figure 1).[1] The 56,090 square-foot project site is occupied by a surface parking lot on its eastern side and a four-story office building (which includes a clock tower) and a three-story parking garage on its western portion. The 75,816 gross square-foot (gsf) vacant office building, covering approximately 36,500 square feet of the project site, was occupied by Bank of America until late 2002. The building's approximately 183-foot-tall triangular clock tower includes a digital clock and signage with the Bank of America logo on each face. The 8,100-square-foot, three-level parking garage and surface parking lot that front Harrison Street provide 94 and 54 spaces, respectively, for a total of 148 existing on-site spaces. Existing development on the site totals about 84,000 gsf.

The proposed project would include demolition of the site's existing structures and construction of a 720-unit residential development[2] on the site with a total of 1,131,280 gsf, a net increase of 1,047,364 gsf on the project site. The project would include 703 residential units in two towers, totaling 865,040 gsf of residential space. A 450-foot-tall, 44-story north tower would include 315 units, while a nearly 550-foot-tall, 54-story south tower would contain 388 units.[3] The project would also include a total of 17 stacked 2- and 3-story townhouses totaling 45 feet in height, including five on the ground level along Harrison Street, three on the ground level along First Street, and nine located on top of the ground-level units, totaling approximately 30,700 gsf of residential townhouse space. In total, the project would provide about 895,740 gsf of residential space. Additional uses, such as lobbies, fitness center, mechanical, and management offices would occupy approximately 59,110 gsf. A convenience retail space of 3,550 gsf would be provided in the ground floor of the north tower. See Figure 2 for a project site plan, Figure 3 for a representative building elevation (Harrison Street), and Figure 4 for the ground floor plan.

Typical residential tower floors would be 9,240 gsf and contain eight units, including a mix of junior one-bedroom, one-bedroom, two-bedroom, and three-bedroom units. The top five floors of each tower would be 8,100 gsf and provide four units each. Project-wide (towers and townhouses), unit sizes would range from approximately 620 gsf to 2,450 gsf. Altogether, the project would include 720 units, including approximately 320 junior one-bedroom units, 80 one-bedroom units, 280 two-bedroom units, and 40 three-bedroom units.

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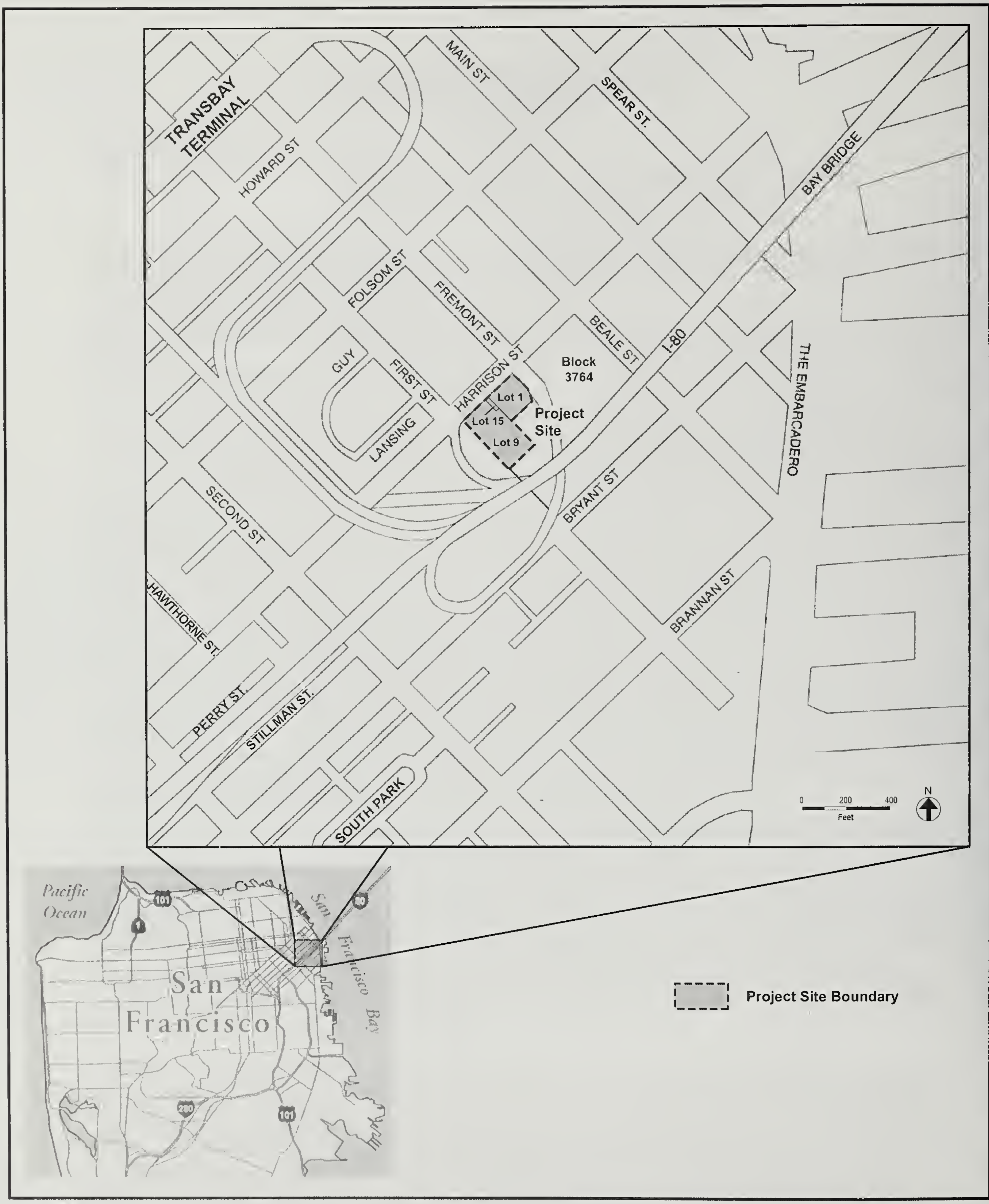
1 City streets south of, and including, Market Street are oriented northwest-southeast (e.g., First, Beale) and northeast-southwest (e.g., Folsom, Harrison). To simplify the discussion, this Initial Study uses the convention of referring to northwest-southeast streets as north-south and referring to northeast-southwest streets as east-west.

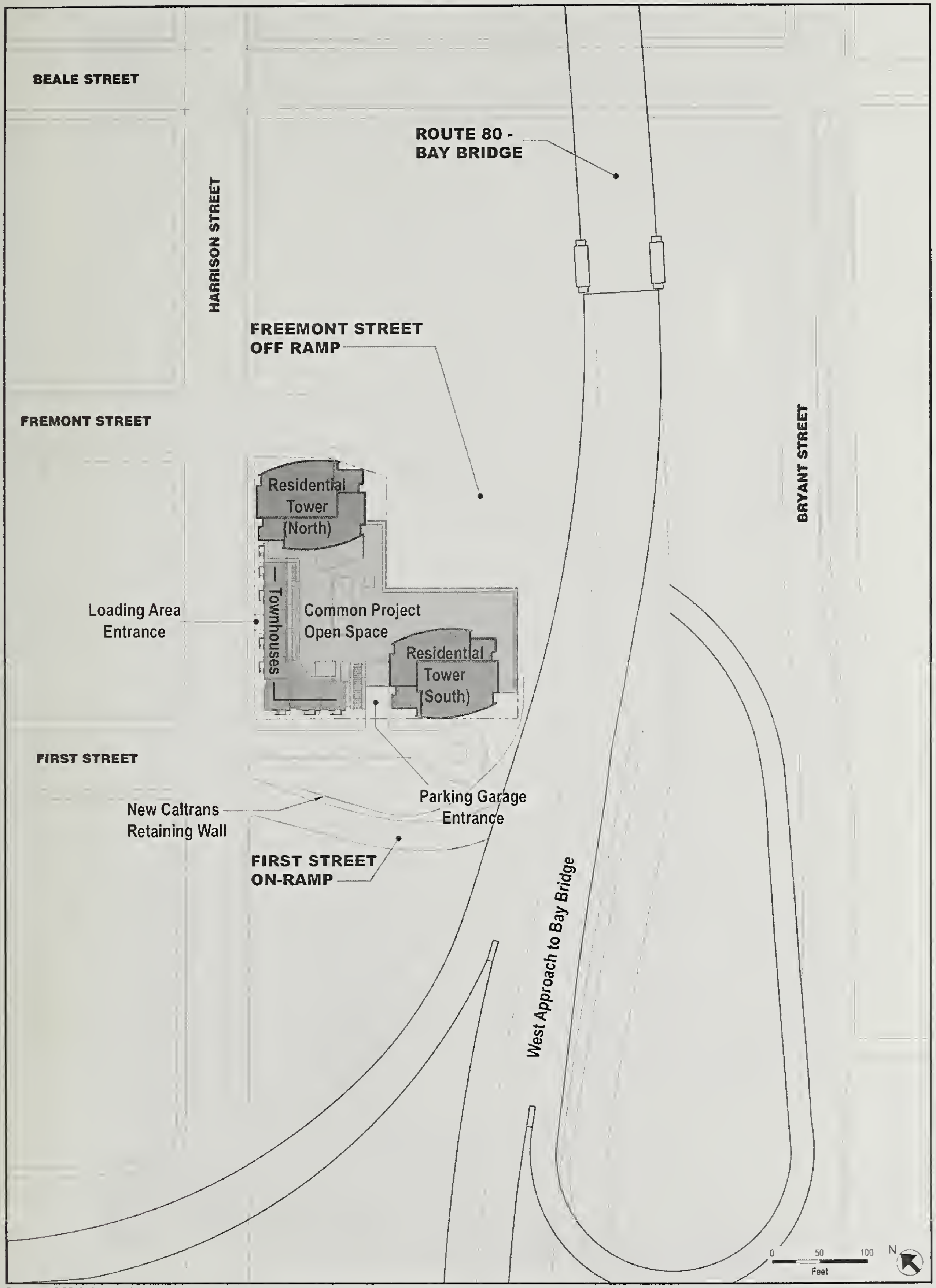
2 The project sponsor has not yet determined if the project's units would be condominiums, rental apartments, or a combination.

3 Heights are to the top of the residential levels of the towers. Atop the residential levels of each tower would be two mechanical levels and a parapet, totaling 42 feet. In total, the north tower would be 492 feet tall and the south tower would be 592 feet tall.



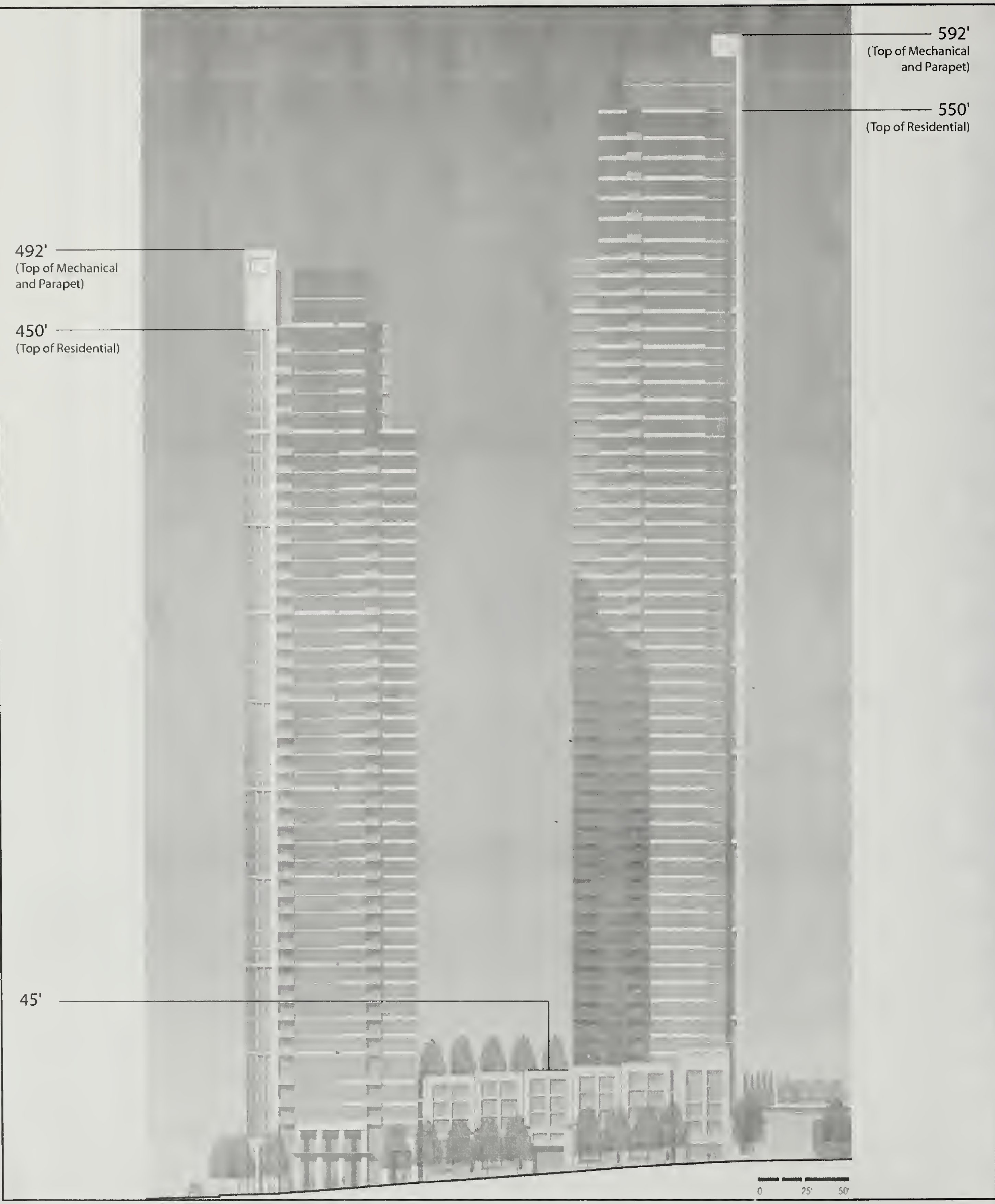
Source: EDAW

Figure 1 - Project Location



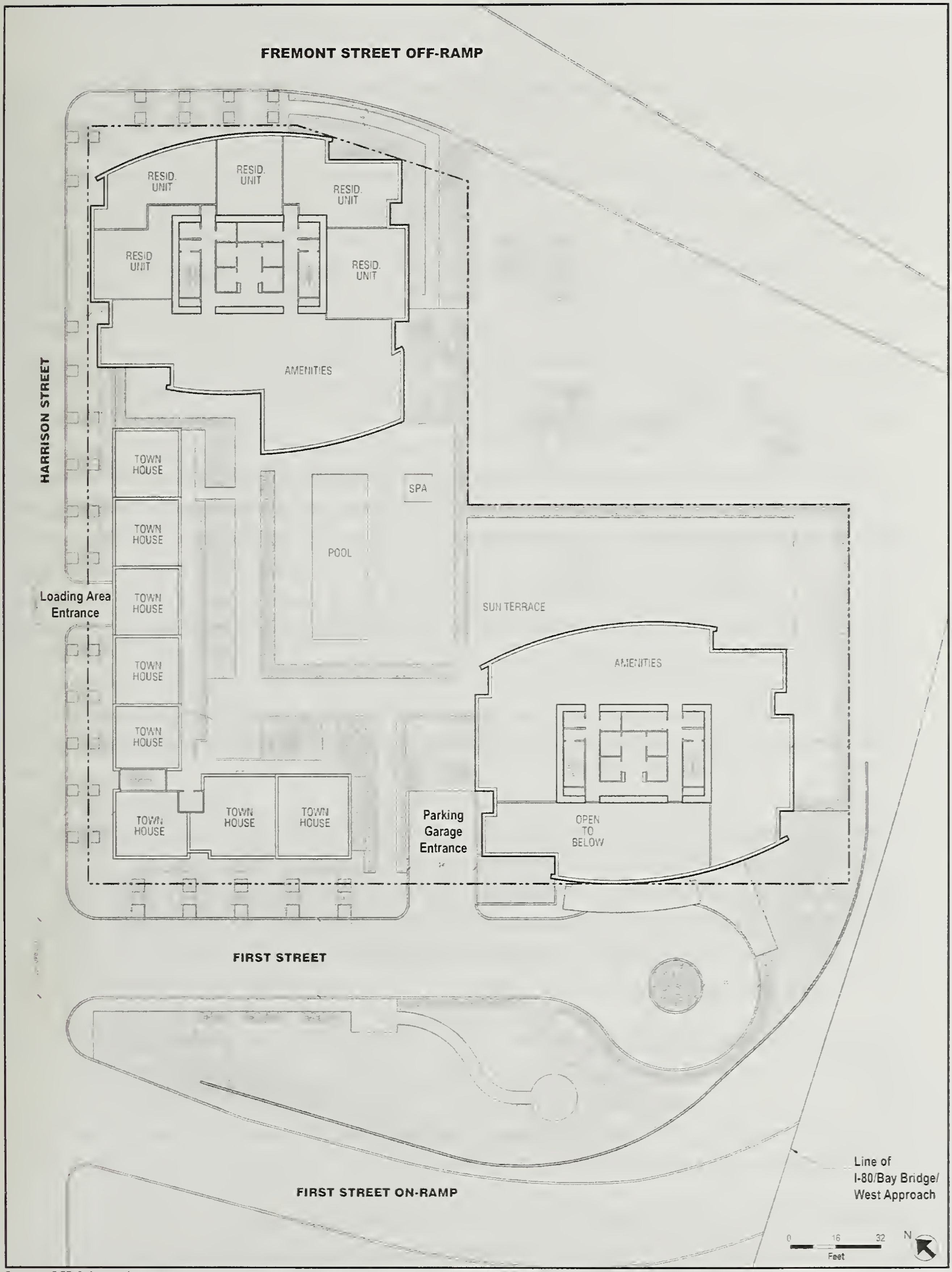
Source: SCB & Assoc., Inc.

Figure 2 - Project Site Plan



Source: SCB & Assoc., Inc.

Figure 3 - North Elevation (Harrison Street) with Outline of Bay Bridge in Background



Source: SCB & Assoc., Inc.

Project Site Boundary

Figure 4 - Ground Level Plan

The project towers would sit atop two to five partial basement levels (due to the slope of the site downward from First Street to Fremont Street) containing parking, loading, bicycle parking, mechanical equipment, and tenant storage. Parking would also be provided on two additional partial above-grade levels. The parking levels, accessible from First Street, would provide 375 independently-accessible parking spaces (of which 15 would be handicapped accessible) in 169,180 gsf. In addition, the project sponsor seeks approval of car lifts, which could be installed in the parking levels to approximately double the capacity of the garage to up to 720 spaces. The Planning Code (Section 151) requires 720 spaces for the project (one independently-accessible space for each dwelling unit), of which 15 would be required to be handicapped-accessible (one space for every 25 parking spaces). If the Rincon Hill Plan and controls were not adopted, authorization to provide about one-half the project parking in non-independently accessible parking spaces would be sought by the project sponsor. A 3,700-square-foot loading area on the level directly accessible from Harrison Street would be able to accommodate two full-size loading spaces.

The project would provide approximately 49,000 square feet of common and private open space for the use of building residents. Common open space would include a landscaped terrace that would sit atop the parking levels and include a swimming pool and spa. A glass wall of at least seven feet in height would line the terrace's southern and southeastern perimeter, providing a physical and acoustic sound barrier between the terrace and the adjacent Bay Bridge and approach. The project's fitness center and other residential amenities would be located on the same level as the terrace. Private open space would include balconies and patios that would be accessed from individual residences.

The project would also include 19,000 additional square feet of publicly accessible open space, including a widened sidewalk and landscaped areas along Harrison Street and a widened sidewalk and landscaping in the First Street public right-of-way (see Figure 4). A portion of this right-of-way, adjacent to the project site to the west, would be improved as a landscaped entry court. The remaining right-of-way would be improved to be a publicly accessible open space. All of the 35 existing on-street parking spaces located in the right-of-way would be eliminated. The building would be set back approximately four feet to the townhouse entry steps at the ground level and nine feet to the face of the building from the northern and western property lines, increasing the width of the Harrison Street sidewalk (currently eight feet wide) to approximately 17 feet and the First Street right-of-way, enabling the installation of landscaping. Combined private and publicly accessible open space would total 68,000 square feet.

The existing building on the project site, constructed in 1941 and altered numerous times in the 1950s, is identified in the Rincon Hill Area Plan of the General Plan as a significant building and is one of eight buildings for which the existing Rincon Hill Plan indicates "preservation should be encouraged." The San Francisco Citywide 1976 architectural survey rated the building a "4" on a scale of 0 to 5 (with "5" being the highest rating) for architectural merit.

Project construction would be expected to occur in two back-to-back phases and take a total of approximately 38 months. Phase one, which would include demolition of the existing structures and construction of the parking levels, retail space, southwest tower and townhouses (totaling approximately 415 units), would take approximately 24 months, with the proposed building planned to open Spring 2007. Phase two, construction of the 305-unit north, tower would take an additional 14 months and would likely commence after completion of the first phase. The project architects are Solomon Cordwell Buenz & Associates Architects, of Chicago.

The project sponsor, Rincon Ventures LLC, proposes a merger of the site's three lots and seeks other project approvals contingent on approval by the Board of Supervisors of the revised proposed Rincon Hill Plan and Mixed Use District (MUD). The project has been designed to be consistent with and implement the proposed Area Plan and MUD, as described in the November 2003 draft for public discussion and the *Proposed Plan Refinements* published in March, 2004. Should the proposed Rincon Hill Plan and MUD not proceed as currently scheduled, the project sponsor would individually seek a rezoning (including a Height/Bulk district reclassification) for the site consistent with what the draft Plan (including the proposed refinements) proposes. The proposed rezoning if necessary, which requires approval by the Planning Commission and the Board of Supervisors, and signature by the Mayor, would change the provisions of the current Rincon Hill Special Use District (Planning Code 249.1) as they apply to the site concerning open space and residential density and non-individually accessible parking access, increase the site's two height limits (from 200 feet to 450 feet on the northern portion of the site and from 84 feet to 550 feet on the southern portion), and modify bulk controls. These changes also require a zoning map change and a zoning text change.

The project also requires either a revocable encroachment permit or a street improvement permit from the Department of Public Works (DPW) for the proposed use of the First Street right-of-way. The project also requires separate approval from DPW and the Department of Parking and Traffic for the provision of new curb cuts for entry to parking and the new entrance turnaround and drop-off (on First Street); new entry to loading dock accessed from Harrison Street; and replacement of curbs, gutters, and sidewalks (on Harrison Street).

The project is subject to the Residential Inclusionary Affordable Housing Program (Planning Code Sections 315 to 315.9). The project sponsor has yet to finalize how it would comply with Planning Code Section 315, but currently intends to do so by meeting the requirements on-site. The project is subject to Planning Code Section 295 (regarding shadow on property under the jurisdiction of the Recreation and Park Commission). Shadow effects in relation to Section 295 are discussed on page 25. This topic will be addressed in an Environmental Impact Report (EIR).

II. SUMMARY OF POTENTIAL ENVIRONMENTAL EFFECTS

A. EFFECTS FOUND TO BE POTENTIALLY SIGNIFICANT

This Initial Study examines the proposed One Rincon Hill Residential Development project, to identify potential effects on the environment. On the basis of this study, project-specific and/or cumulative impacts that relate to land use, visual quality/urban design, population, transportation, operational air quality, wind, shadow, and historic architectural resources have been determined to be potentially significant, and will be analyzed in an EIR. The EIR may provide discussion of topics determined in this Initial Study not to be significant, for informational purposes.

B. EFFECTS FOUND NOT TO BE SIGNIFICANT

The following potential effects of the One Rincon Hill Residential Development project were determined either to be insignificant or to be mitigated through measures identified in this Initial Study that are included in the proposed project: noise, construction air quality, utilities/public services, biology, geology, water, energy, hazards, and archaeological resources. These items are discussed in Section III below, and require no further environmental analysis in the EIR.

III. ENVIRONMENTAL EVALUATION CHECKLIST AND DISCUSSION

A. COMPATIBILITY WITH EXISTING ZONING AND PLANS

		Not Applicable	Discussed
1)	Discuss any variances, special authorizations, or changes proposed to the City Planning Code or Zoning Map, if applicable.		X
2)	Discuss any conflicts with any adopted environmental plans and goals of the City or Region, if applicable.		X

The One Rincon Hill Residential project (formerly called 425 First Street) would require review by the Planning Commission, Department of Public Works, the Department of Parking and Traffic, and potentially the Board of Supervisors if a rezoning is necessary, in the context of the City and County of *San Francisco General Plan* (General Plan) and other relevant plans.

The General Plan provides general policies and objectives to guide land use decisions. The proposed project is within that part of San Francisco covered by the Rincon Hill Area Plan, an area plan of the General Plan. Other relevant parts of the General Plan include the Residence, Transportation, Community Safety, and Urban Design Elements. The proposed project could conflict with certain General Plan policies and could be consistent with others. If the project, on balance, were to have substantial conflicts with General Plan goals and policies, it could not be approved. In general, potential conflicts with the General Plan are considered by the decisions-makers (normally the Planning Commission) independent of the environmental review process, as part of the decision to approve, modify, or disapprove a proposed project. Any potential conflict not identified here could be considered in that context and would not, in and of itself, alter the physical environmental effects of the proposed project. As such, any potential conflicts with the General Plan would not have an environmental impact. The relationship of the proposed project to objectives and policies of the General Plan will be discussed in the EIR.

The San Francisco Planning Code, including the City Zoning Maps, implements the General Plan and governs permitted uses, densities, and configuration of buildings within San Francisco. Permits to construct new buildings or to alter or demolish existing ones may not be issued unless: 1) the proposed project conforms to the Code; 2) an allowable exception is granted pursuant to provisions of the Code; or 3) an amendment to the Code is made.

The project site is located in the Rincon Hill Special Use District (SUD) (Planning Code Section 249.1). The Planning Code divides the Rincon Hill SUD into two subareas: a Residential Subarea, located at the core of the SUD; and a Commercial/Industrial Subarea, located mostly along the perimeter of the SUD. The northern portion of the project site is within an RC-4 (Residential-Commercial-Combined, High-Density) Use District and the Residential Subarea of the SUD, while the southern portion is in an M-1 (Light Industrial) Use District and the Commercial/Industrial Subarea. Planning Code Section 249.1 describes controls for site coverage and sidewalk treatment, uses, open space, density, and parking for the area, including the project site.

The project site is within 200-R (northern portion of the site) and 84-X (southern portion of Lot 9) Height and Bulk Districts (200- and 84-foot basic height limits, respectively; the "R" bulk district indicates there are 200-foot maximum allowable length and diagonal plan dimensions above 51 feet and 110-foot maximum length and 125-foot maximum diagonal dimension limits above 105 feet, while the "X" bulk limit indicates that there are no bulk requirements). The height of the 450- and 550-foot-tall project buildings would not be allowable as proposed under current controls. If the proposed Rincon Hill Plan and MUD are not adopted, the project sponsor would apply for rezoning (which would require the approval of the Planning Commission and the Board of Supervisors, as well as the signature of the Mayor), including a height/bulk district reclassification (a map amendment) that would change the northern portion of the site from 200 feet to 450 feet and the southern portion of the site from 84 feet to 550 feet, and modify bulk controls.

As described above, the project site is located within the Rincon Hill SUD. The district was created by the Rincon Hill Area Plan of the General Plan, in which the project site is located. The Planning Department has published a draft proposal to create a new Rincon Hill MUD that would replace the current Rincon Hill SUD. The MUD, as currently drafted, would increase height limits and make other changes intended to stimulate high-density residential development in the Rincon Hill neighborhood. In relation to the project site, the MUD would increase the allowable height on the portion of the project site that is currently in a 200-R Height/Bulk District to 450 feet, and would increase the allowable height on the portion of the site in the 84-X Height/Bulk District to 550 feet. Amendments to the General Plan and Planning Code, including text and zoning map changes, would be required for the Rincon Hill MUD, or for the project if the MUD were not adopted, as indicated above. The Planning Department has initiated preparation of an EIR for the Rincon Hill Plan/MUD proposal. The MUD requires environmental review and adoption by the Planning Commission and Board of Supervisors prior to implementation. The proposed project would be consistent with the Rincon Hill Plan/MUD, as currently proposed.

Environmental plans and policies, like the *Bay Area 1997 Clean Air Plan*, directly address physical environmental issues and/or contain standards or targets that must be met in order to preserve or improve specific components of the City's physical environment. The proposed project would not obviously or substantially conflict with any such adopted environmental plan or policy.

On November 4, 1986, the voters of San Francisco passed Proposition M, the Accountable Planning Initiative, which added Section 101.1 to the Planning Commission to establish eight Priority Policies. These policies are: preservation and enhancement of neighborhood-serving retail uses; protection of neighborhood character; preservation and enhancement of affordable housing; discouragement of commuter automobiles;

protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership; earthquake preparedness; landmark and historic building preservation; and protection of open space. Prior to issuing a permit for any project which requires an Initial Study under the *California Environmental Quality Act* (CEQA), and prior to issuing a permit for any demolition, conversion, or change of use, or adopting any zoning ordinance or development agreement, the City is required to find that the proposed project or legislation is consistent with the Priority Policies. The case reports for the project approvals and project rezoning and/or subsequent motions of the Planning Commission and the Board of Supervisors will contain the analysis determining whether the proposed project is in conformance with the Priority Policies.

B. ENVIRONMENTAL EFFECTS

Except for the topics of land use, visual quality/urban design, population, transportation, operational air quality, wind, shadow, and historic architectural resources as discussed above, items on the Initial Study Checklist herein have been checked "No" indicating that, upon evaluation, staff has determined that the proposed project could not have a significant adverse environmental effect in those areas checked "No". For items where the conclusion is "To Be Determined," the analysis will be conducted in the EIR. Several checklist items have also been checked "Discussed," indicating that the Initial Study text includes discussion of those particular issues. For all of the items checked "No" without discussion, the conclusions regarding potential significant adverse environmental effects are based upon field observation, staff experience on similar projects, and/or standard reference material available within the Planning Department, such as the Department's Transportation Guidelines for Environmental Review, or the California Natural Diversity Database and maps, published by the California Department of Fish and Game. For each checklist item, the evaluation has considered the impacts of the project both individually and cumulatively.

1) Land Use. Could the project:	Yes	No	Discussed
(a) Disrupt or divide the physical arrangement of an established community?	___	X	X
(b) Have any substantial impact upon the existing character of the vicinity?	To be determined		

The project site is situated along the south side Harrison Street, immediately to the north of Interstate 80 (specifically, the Bay Bridge West Approach), to the east of First Street and the First Street on-ramp to the Bay Bridge, and immediately to the west of the Fremont Street off-ramp from the Bay Bridge.

The project site is situated in the Rincon Hill neighborhood, two blocks to the south of the proposed Transbay Redevelopment Project Area and within two blocks north of the Rincon Point-South Beach Redevelopment Plan Area. Much of Rincon Hill is in transition from an industrial district with surface parking to a predominately high-rise residential district. A number of high-density residential buildings containing about 1,100 units have been built in the Rincon Hill SUD, and projects totaling about 3,200 additional units are under construction, approved, or under formal review.

Land uses in the vicinity of the project site are primarily high-density residential, but also include retail, office, light industrial, and institutional uses, and major transportation facilities. There are existing residential developments in the RC-4 District to the northwest and northeast of the project site. Within a few blocks of the site there are a number of existing residential buildings, including: the nine-story, 158-unit Portside II building (at 403 Main Street), three blocks to the east of the site; the 13-story, 288-unit Bay Crest building (at 201 Harrison Street), two blocks east of the site; the 26-story, 245-unit Bridge View Tower (at 400 Beale Street), one block east of the site; and the 20-story, 226-unit Avalon Towers at 388 Beale Street, one block to the north. Along with these nearby residential buildings, there are also several multi-story office and older industrial buildings in the Rincon Hill area. Directly across Harrison Street from the project site to the north is the Sailor's Union of the Pacific building, which functions primarily as office space and is available for use as an event space.

The Board of Supervisors recently approved two 820-unit residential projects on the site of surface parking lots at 300 Spear Street, three blocks to the north of the site, and at 201 Folsom Street, two blocks to the north of the site. A third residential development (288 units) is currently under construction at 333 First Street, one-half block northwest of the site. The proposed project (720 units) and other proposed development at 333 Fremont Street (88 units), 375 Fremont Street (250 units), and 385/399 Fremont Street (300 units) are recently proposed residential developments in the Rincon Hill SUD area.

Public open space in the greater vicinity of the project site includes Rincon Park between Howard and Folsom Streets on The Embarcadero, South Park on the south side of Interstate 80, and South Beach Park between Townsend and Second Streets on the Bay side of The Embarcadero. The Draft Rincon Hill Plan proposes that the City purchase from Caltrans the vacant parcel at the southeast corner of Fremont and Harrison Streets across Fremont Street from the project site to create an approximately 1.5-acre park. The City and Caltrans are currently in negotiations regarding the property.[4]

The 56,090-square-foot project site is currently occupied by a surface parking lot on its eastern side and the four-story Bank of America office building (which includes a clock tower) and three-story garage on its western portion. The existing office building includes 75,816 gsf of space and the garage includes 8,100 square feet, for a total of 83,916 gsf existing. The 183-foot tall triangular clock tower contains no usable space and is used for display and advertising. The surface parking and three levels of garage parking provide space for 148 vehicles.

The proposed 44-story and 54-story residential towers and 17 townhouses, which would total approximately 1,131,280 gsf, would introduce residential and retail uses to the project site, increase parking, and result in an increase in intensity relative to the existing land use, given that the existing building consists of four stories of office space, vacant since late 2002. However, the project would not alter the general land use or character of the immediate Rincon Hill area, which includes existing and under-construction high-rise residential buildings in this growing residential area of the City.

The project would be similar in use to a growing number of multi-unit high-rise residential buildings in the immediate vicinity in Rincon Hill and South Beach. Both the existing Rincon Hill SUD and proposed Rincon

4 Josh Switzky, San Francisco Planning Department, telephone conversation with Dan Cohen, EDAW, Inc., April 26, 2004.

Hill MUD, currently under environmental evaluation by the Planning Department, envision high-rise residential development in this neighborhood.

The project would be developed within the existing block configuration and therefore would not disrupt or divide the neighborhood. As indicated, the site is adjacent on three sides to major transportation facilities, under the jurisdiction of the State Caltrans agency. They include the Interstate 80 (the Bay Bridge West Approach) abutting the site to the south, the Fremont Street off-ramp adjacent on the east, and the First Street on-ramp adjacent to the site on the west. The construction schedule of the proposed project would overlap with the seismic retrofit of the Bay Bridge West Approach. Work on the West Approach will be conducted throughout the construction duration of the project, estimated by Caltrans to be completed Winter 2009. Work on the West Span is expected to be completed in the summer of 2004, and thus would not overlap with project construction.[5] The potential environmental impacts associated with the overlap of these construction efforts will be discussed in greater detail in the EIR, in appropriate topic sections. Caltrans construction, in relation to the project, would not affect land use, and it would be limited in duration.

In view of the above, project specific land use impacts require no further study. They will be described in the EIR for informational purposes only. The project's potential cumulative land use effects will be analyzed in the EIR to determine if they would be significant, particularly with respect to changes in the area due to the project and the other projects currently under environmental review.

2) <u>Visual Quality</u>. Could the project:	Yes	No	Discussed
(a) Have a substantial, demonstrable negative aesthetic effect?		To be determined	
(b) Substantially degrade or obstruct any scenic view or vista now observed from public areas?		To be determined	
(c) Generate obtrusive light or glare substantially impacting other properties?		To be determined	

As described above, the site is occupied by a four-story office building (approximately 50 feet tall), which includes a triangular 183-foot-tall signature clock tower; a three-story garage (approximately 35 feet tall on Harrison Street); and surface parking, all in a complex set against the hill that rises along First Street. The proposed project would visually change the project site as it would consist of both the demolition of the existing structures and surface parking, and the construction of a new residential development including two towers of 450 feet and 550 feet tall (44 and 54 stories) in their place.

The proposed development would differ visually from the existing structures in height, mass, and architectural style. There is a wide range of building styles in the area, especially amongst the high-rise residential towers that have recently been constructed or proposed for development in the Rincon Hill area. To further analyze the potential for substantial negative aesthetic and view corridor effects, the EIR will discuss visual quality and urban design in terms of project-specific and cumulative visual quality effects, and provide visual simulations of the proposed buildings in the context of existing conditions. The EIR will

[5] See Caltrans West Approach website: http://www.dot.ca.gov/dist4/safer

discuss the project's potential impact, if any, on scenic views currently available from public areas including the Bay Bridge, First Street, and Harrison Street, and consider pedestrian, mid-range, and long-range views.

The project is not expected to generate unusual light or glare. However, because of the project's proximity to major transportation facilities, the EIR will consider glare in its analysis of visual quality.

3) Population. Could the project:	Yes	No	Discussed
(a) Induce substantial growth or Concentration of population?	To be determined		
(b) Displace a large number of people (involving either housing or employment)?		X	X
(c) Create a substantial demand for additional housing in San Francisco, or substantially reduce the housing supply?		X	X

The proposed project would demolish the existing 75,816 square-foot vacant Bank of America office building and adjacent garage and the surface parking on the project site. The building site was vacated in late 2002. At full occupancy, the existing building could have accommodated approximately 276 office employees.[6] The Bank of America employees that formerly worked at this site that still work for the company have been relocated to other office space in downtown San Francisco.[7]

San Francisco consistently ranks as one of the most expensive housing markets in the United States. San Francisco is the central city (and most urban place) in an attractive region known for its agreeable climate, open space, recreational opportunities, cultural amenities, diverse economy, and prominent educational institutions. As a regional employment center, San Francisco attracts people who want to live close to where they work. These factors continue to support a strong housing demand in the City. New housing to relieve the market pressure created by the strong demand is particularly difficult to provide in San Francisco because the amount of land available for residential use is limited, and because land and development costs are high.

The One Rincon Hill Residential Development project use would be consistent with the existing Rincon Hill Plan and proposed MUD, which call for high density residential use in this area near the downtown. A majority of those that are able to live in the Rincon Hill area could be employed in the downtown San Francisco area and walk to/from work.

During the period of 1990-2000, the number of new housing units completed citywide ranged from a low of about 379 units (1993) to a high of 2,065 units (1990) per year. The citywide annual average over that 11-year period was about 1,130 units.[8] In March 2001, the Association of Bay Area Governments (ABAG) projected regional needs in the Regional Housing Needs Determination (RHND) 1999-2006 allocation. The jurisdictional need of the City for 2006 is 20,372 dwelling units, or an average yearly need of 2,716 net new

6 Based on a standard multiplier of 275 sq. ft. per office employee (75,816 sq. ft./275 sq. ft. per employee = 276 employees), based on San Francisco Planning Department transportation analysis guidelines and Keyser Marston Associates, Inc., *San Francisco Cumulative Growth Scenario: Final Technical Memorandum*, prepared for the San Francisco Redevelopment Agency, March 30, 1998.

7 Information provided by Ken Reza, Portsmouth Holding Partners of the project team.

8 San Francisco Planning Department, *Data and Needs Analysis – Part 1 of the 2001 Housing Element Revision*, June 1, 2001, p. 23.

dwelling units. The proposed project would add 720 residential units to the City's housing stock towards meeting this need. The project would be expected to include approximately 10 retail employees[9] and a relatively small number of parking, janitorial, building maintenance and management employees. Therefore, the proposed project would not create substantial demand for new housing because it would provide housing and would not generate a substantial number of new employees.

Housing demand, in and of itself, is not a physical environmental effect. An imbalance between local employment and housing, however, can lead to long commutes with corresponding traffic and air quality impacts. (Traffic and air quality impacts of the project and cumulative impacts are discussed in those topic sections).

As stated above, there is substantial demand for new residential units in San Francisco. Based on a household density factor of about 1.35 persons per dwelling unit,[10] the proposed development is estimated to accommodate approximately 972 people (1.35 x 720). Currently, there are no residential units on the site. Substantial amounts of new residential units have been built recently or are under construction in the Rincon Hill area, including the recently occupied 248-unit Bridge View Tower on Beale Street, the 288 units under construction at First and Folsom Streets (333 First), 51 approved units at 325 Fremont Street, and two 820-unit residential projects recently approved by the City, one at 201 Folsom Street and one at 300 Spear Street. While noticeable to immediately adjacent neighbors, the increase in the number of residents on the project site would not substantially increase the area-wide population, and the resulting density would not exceed levels that are common and accepted in high-density urban areas such as San Francisco. The project-generated population increase would not be a significant effect; however, the project would contribute to the overall cumulative population growth of the Rincon Hill area.

After construction, project job creation or employment would be limited to the approximately 10 retail jobs associated with the project's 3,550 gsf of retail space and the service jobs associated with operating and maintaining the proposed residential complex and retail. The proposed project would provide 720 dwelling units for about 972 people. Project employment, even if it were to represent all new residents to the City, would not result in a substantial contribution to overall housing demand, and would not be considered significant. The project would not be expected to induce substantial new residential or commercial growth not already planned for. Bank of America relocated all of the employees who worked in the on-site office space in late 2002; therefore the project would not displace any employees.

Based on the above analysis, no significant physical environmental effects on housing demand or project-specific population would occur due to the project itself, and these issues require no further analysis in the EIR. As noted above, the EIR will consider the project population in relation to cumulative impacts of residential development in the Rincon Hill area and will include project specific material for informational purposes.

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9 Based on a standard multiplier of 350 sq. ft. per retail employee (3,550 sq. ft./350 sq. ft. per employee = 10.2 employees), based on San Francisco Planning Department transportation analysis guidelines and Keyser Marston Associates, Inc., *San Francisco Cumulative Growth Scenario: Final Technical Memorandum*, prepared for the San Francisco Redevelopment Agency, March 30, 1998.

10 City and County of San Francisco Planning Department and San Francisco Redevelopment Agency, *Mission Bay Final Subsequent Environmental Impact Report*, Planning Department File No, 96.771 E, Volume IV, Appendices, Table C.6, p. C.4 certified September 17, 1998.

4)	Transportation/Circulation – Could the project:	Yes	No	Discussed
(a)	Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system?	To be determined		
(b)	Interfere with existing transportation systems, causing substantial alterations to circulation patterns or major traffic hazards?	To be determined		
(c)	Cause a substantial increase in transit demand which cannot be accommodated by existing or proposed transit capacity?	To be determined		
(d)	Cause a substantial increase in parking demand which cannot be accommodated by existing parking facilities?	To be determined		

The proposed residential uses of the project would place demands on the local transportation system, including increased traffic, transit demand, and parking demand. The EIR will discuss project effects related to transportation and circulation, including intersection operations, transit demand, and impacts on pedestrian circulation, parking, bicycles, and freight loading, as well as construction impacts. The analysis will take into account the Bay Bridge retrofit, West Approach and East Span[11] construction activities, the City's proposed rezoning of the Rincon Hill area as a whole, and the proposed transit-oriented development associated with the Transbay Terminal/Caltrain Downtown Extension project.

5)	Noise. Could the project:	Yes	No	Discussed
(a)	Increase substantially the ambient noise levels for adjoining areas?		X	X
(b)	Violate Title 24 Noise Insulation Standards, if applicable?		X	X
(c)	Be substantially impacted by existing noise levels?		X	X

As part of the project sponsor's application process to the Department of Housing and Urban Development (HUD) for insurance underwriting,[12] a noise study was prepared by the EIR consultant to assess the project's compatibility with HUD noise standards,[13] using HUD's noise assessment methodology.[14] This study was also reviewed by Planning Department Staff. In summary, regarding exterior noise, the study found that

11 See Caltrans website for schedule: http://www.dot.ca.gov/dist4/eastspans.

12 As part of the proposed project's financing, it is possible that HUD would insure the project's permanent loan. For HUD-insured projects, specific design standards and site requirements must be met. These standards are not official environmental impact standards, but rather underwriting criteria.

13 HUD requires an assessment of existing and future noise impacts from roadway, aircraft, and railroad noise sources within the project area if a proposed residential project assisted by HUD is located within 15 miles of a military or civilian airport, 1,000 feet from a roadway, or 3,000 feet from a railway. The project site is less than 1,000 feet from a roadway.

14 EDAW, Inc., *One Rincon Hill Noise Study*, April 29, 2003. This report is on file with the Planning Department, 1660 Mission Street, San Francisco, and is available for public review as part of the project file. Also on file is a letter dated April 28, 2004 from Bill Maddux, Environmental Planner, EDAW, Inc., confirming the applicability of the April, 2003 noise study with the revised project design (revised in January, 2004).

projected future noise levels in 2010, generated primarily by vehicle traffic on Interstate 80/the West Approach of the Bay Bridge (located immediately to the south of the project site), would result in an estimated average outdoor noise level on the project site of 79 dBA L_{dn}.[15] Based on HUD's standards, the projected noise levels would be considered "Unacceptable" for a residential project. Regarding interior noise levels in the project units, noise insulation measures included in the project design, and the project's required compliance with State interior noise insulation requirements, would insure that noise impacts on residents of the proposed project would not be significant. A more detailed explanation of the project's potential effects on noise and the manner in which ambient noise conditions would affect the project is provided below.

Existing Ambient Noise Conditions

Outdoor noise in the project area includes numerous sources. The most substantial existing source of noise throughout most of San Francisco is traffic. This is especially true of the project area because of its proximity to Interstate 80, the Transbay Transit Terminal bus ramps, the First Street on-ramp to the Bay Bridge, and the Fremont Street off-ramp from the Bay Bridge. The project site is adjacent to the Bay Bridge West Approach and the Fremont and First Street ramps. Non-traffic noise sources in the area include temporary noise associated with construction in the vicinity, such as that associated with the Bay Bridge West Span and West Approach seismic retrofit.[16] Within two blocks of the project site are a number of residential buildings that are similarly located near the Bay Bridge West Approach and are therefore subject to an ambient noise environment similar to that of the project site. These developments include Bay Crest at 201 Harrison Street, Avalon Towers at 388 Beale Street, Bridge View Tower at 400 Beale Street, and Portside II at 403 Main Street.

As part of the noise study for the proposed project, the consultant conducted site noise measurement surveys on Wednesday, April 9, 2003, between 11:00 a.m. and 3:00 p.m.[17] Noise measurements were made at four locations: 50 feet southeast of the centerline of Harrison Street, 115 feet northwest of the centerline of the Bay Bridge, 50 feet southwest of the centerline of the Fremont off-ramp, and 50 feet northeast of the centerline of the First Street on-ramp. The four measurement locations were chosen because they are near noise sources adjacent to the project site and are representative locations on the project site that could be affected by noise from all four directions. The results of the site noise surveys found that the predominant noise source was from traffic on the Bay Bridge West Approach, adjacent to the project site to the south. Noise levels from this roadway are 7.8 dBA to 9.6 dBA louder than from the other surrounding roadways. Existing noise levels were measured to range from 67.6 dBA L_{eq} to 77.2 dBA L_{eq}.[18]

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15 dBA represents "A-weighted" decibels, the noise scale which weights the frequencies to which humans are sensitive. This scale is commonly used for noise measurements. dBA L_{dn} (also expressed as DNL) represents the day-night average sound level and is based on 24 hours of measurement. This noise metric adds a 10 dBA penalty to noise produced during nighttime hours when most people sleep (10 p.m. to 7:00 a.m.). This metric is not calculated from the ambient L_{eq} levels; rather, it is derived from a model using traffic volumes and other inputs.

16 Caltrans West Approach home page: www.dot.ca.gov/dist4.

17 In accordance with Federal Highway Administration noise modeling procedures, noise measurements were taken during the midday because it is during these hours that the greatest traffic volumes at full speed occur, thereby providing the loudest, and therefore most conservative, noise conditions. During the peak hours, traffic moves more slowly and results in less noise.

18 dBA L_{eq} represents the average noise level over the period of an hour. The measurements reported here were adjusted to normalize for traffic flow variations.

Project-Related Operational Noise

The project would include mechanical equipment, such as air conditioning units and chillers, which would produce operational noise. These would be subject to the San Francisco Noise Ordinance, Article 29 of the San Francisco Police Code, which limits noise from building operations. The project would be required to comply with Article 29, Section 2909, "Fixed source noise levels," which regulates mechanical equipment noise. Since equipment noise would be limited by the ordinance to 60 dBA during the night and 70 dBA during the day, the project's operational noise would not be likely to exceed ambient noise levels in the project area, especially given the elevated ambient noise levels. Thus, substantial increases in the ambient noise level due to building equipment noise would not be anticipated. Therefore, building equipment noise impacts would be less than significant and will not be analyzed in the EIR.

Freight loading activities would increase because the project would represent an introduction of residential and retail land uses to a site that has a building that is currently vacant. However, given the project's location in a dense urban area where regular loading activity is common, noise associated with loading activities would not be substantial or unique. Therefore, loading activity noise impacts would be less than significant and will not be analyzed in the EIR.

Project-Related Traffic Noise

As stated above, ambient noise levels in the vicinity of the project site are atypically high, even for greater downtown San Francisco. As discussed above, the ambient noise level is dominated by vehicular traffic, in particular traffic on the Bay Bridge and approaches. Additional major vehicular noise sources in the project area include traffic on Harrison Street, on the First Street Bay Bridge on-ramp, and on the Fremont Street Bay Bridge off-ramp.

Generally, traffic must double in volume to produce a noticeable increase in noise levels. Traffic volumes would not be expected to double as a result of the project.[19] Therefore, substantial increases in traffic noise levels resulting from the project itself and the project's contribution to cumulative noise levels would not be anticipated in the project area. Traffic noise will not be analyzed further in the EIR.

Future Noise Levels at the Project Site

The noise study conducted for this project was prepared in accordance with HUD testing methodology and the analysis was done using HUD standards. (As noted above, the analysis was conducted because of the project sponsor's application from HUD for insurance underwriting purposes only. The project is not a "HUD project" as generally meant by that term.) The project's architectural plans and site topographical information were utilized in the noise analysis. Existing traffic volumes were used to calculate future (2010) acoustical conditions using HUD Worksheet Set C. The worksheet utilizes roadway geometrics, traffic volumes, traffic mixes, and traffic speeds to determine noise levels. Roadways included in the analysis are the Bay Bridge, the First Street on-ramp to the Bay Bridge, the Fremont Street off-ramp from the Bay Bridge,

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[19] Luba Wyznyckyj, LCW Consulting, Transportation Consultant, telephone conversation with Dan Cohen, EDAW, Inc., February 29, 2004.

and Harrison Street. Future roadway geometrics and speeds were assumed to remain consistent with existing conditions.

Based on the results of the calculations, the estimated outdoor noise level on-site in 2010[20] would be 79.0 dBA L_{dn}. Based on HUD standards, an ambient exterior noise level over 75 dBA is considered "Unacceptable" for a residential use (see Table 1, below). In part to minimize the effect of noise on users of the project's outdoor common areas, the project design includes a solid glass wall of at least seven feet in height that would line the project terrace's southern and southeastern perimeter. Using the Federal Highway Administration's traffic model barrier analysis calculations, a solid barrier of this height would be expected to reduce exterior noise levels to 65 dBA L_{dn}. Although there are no established standards that regulate noise levels for outdoor spaces, 65 dBA L_{dn} is considered "Acceptable" under HUD standards and "Normally Acceptable" under the California Land Use Compatibility Guidelines (which are the standards used by the General Plan's *Environmental Protection Element*). The glass wall would not attenuate noise levels on private balconies, where noise levels would remain unacceptable per HUD standards. In view of the above, effects on project occupants in the project's exterior spaces, which are not regulated, and are private, would not be considered significant, and require no further analysis in the EIR.

Table 1
HUD Exterior Noise Level Site Acceptability Standards for Residential Use

Acceptability Level	DNL[1] (dBA)	Approval requirements
Acceptable	65 or less	None
Normally unacceptable	65 to 70	25 dBA attenuation[2]
Normally unacceptable	70 to 75	30 dBA attenuation
Unacceptable	Over 75	Case-by-case approval

[1] DNL is equivalent to Ldn, the Day-Night average.

[2] Attenuation is a reduction in the noise level of transmitted noise. For example, a wall can attenuate sound between a source and receiver.

Source: EDAW, Inc., *One Rincon Hill Noise Study* (based on HUD's *The Noise Guidebook*, 1991).

Regarding standards for interior noise levels, HUD guidelines establish a goal of 45 dBA L_{dn}. Attenuation requirements are geared towards achieving that goal. Based on HUD standards, the project would be required to attenuate noise by nearly 35 dBA due to exterior noise levels at the site. According HUD's *Noise Guidebook*, standard building construction will provide attenuation to interior levels of 45 dBA L_{dn} or less when the exterior noise level is 65 dBA.[21] The noise study found that attenuation to an interior level of 45 dBA L_{dn} or less could be achieved for the proposed project using one or more of the following methods that are not part of standard construction: reducing the number and/or size of openings in exterior walls (particularly those facing the Bay Bridge); using wall components with a high Exterior Wall Noise Rating (EWNR) rating; and/or relocating noise-sensitive rooms, such as living rooms and bedrooms, away from noise sources and placing non-noise sensitive rooms, such as bathrooms and closets, along noise impacted walls.

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[20] Modeling was conducted using the year 2010 to be conservative. This would be conservative because by that year the project and other project area development would have been built, but traffic volumes would be less (and therefore louder because of higher speeds) than subsequent years, such as 2015.

[21] United States Department of Housing and Urban Development, *The Noise Guidebook*, 1991.

Title 24 of the California Code of Regulations establishes uniform noise insulation standards for residential projects. Title 24 requires that residential structures (other than detached single-family dwellings) be designed to prevent the intrusion of exterior noise so that the interior CNEL[22] with windows closed, attributable to exterior sources, shall not exceed 45 dBA in any habitable room.

To ensure that occupants of the proposed residential units would not be adversely affected by proximity to traffic noise, noise insulation measures would be included as part of the design for the project, as required by Title 24. This would ensure that project residents would not be significantly affected by ambient exterior noise levels, with windows closed. (Interior noise levels would be higher with windows open, depending on fluctuating ambient noise.) The project design is still in its preliminary stages and the project designers are evaluating a variety of noise insulation options to meet Title 24. These include numerous insulated glass window assemblies with varying thicknesses of each window's two panes of glass and the use of laminated glass. The concrete frame in which the windows would be set would also provide acoustical insulation. It should be noted that the project's height, in and of itself, would have positive attenuation effects, as noise levels would dissipate with each building level located above the surface of the Interstate 80 roadway. Final selection of noise insulation techniques will be based on the recommendations of an acoustical engineer's calculations as to which methods would be most effective and would bring interior noise levels below 45 dBA.

The Department of Building Inspection (DBI) would review the final building plans to insure that the building wall and floor/ceiling assemblies meet State standards regarding sound transmission. No building permit would be issued by DBI unless the project design is found to conform to these standards. If determined necessary by DBI, to assure that the design would meet the interior noise level goal, a detailed acoustical analysis of the exterior wall architecture/structure could be required.

With incorporation of noise insulation and compliance with Title 24, the existing noise environment would not substantially negatively affect occupant use of project interior spaces, and no further analysis is required.

Construction Noise

Construction activities associated with the project, including demolition, excavation, foundation construction, concrete erection, and finishing would temporarily increase noise in the site vicinity. During the approximately 38-month construction period, approximately three months would be devoted to demolition, three months would be devoted to excavation and shoring, four months would be devoted to foundation and below-grade construction, 22 months would be devoted to base building erection and exterior finishing, and six months would be devoted exclusively to interior finishing.[23] Construction noise levels would fluctuate depending on construction phase, equipment type and duration of use, distance between noise source and listener, and presence or absence of barriers. Because portions of the project site are underlain by bedrock

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22 The Community Noise Equivalent Level (CNEL) is a based on 24 hours of measurement and includes a time-weighted factor for the evening and nighttime hours. CNEL and L_{dn} metrics yield approximately the same 24-hour value (within 1 dBA).

23 Ground-disturbing construction period based on project sponsor's estimation that project construction would involve approximately three months for demolition, three months for excavation and shoring, and four additional months for foundation and below-grade construction. Source: Project Management Advisors, February 26, 2004. This document is available for review by appointment as part of the project file at 1660 Mission Street, Fifth Floor, San Francisco California 94103.

that would need to be removed in order to construct the project as proposed, the three-month excavation phase of the project's construction would be expected to include jack hammering and rock blasting. These activities would potentially create a nuisance to drivers of automobiles on the Bay Bridge, its West Approach, and ramps, particularly during periods of slow moving traffic. These effects would be temporary and intermittent, and so would be less than significant. The project would not require pile driving.

During the construction period, temporary construction noise would be noticed by neighboring residents and nearby retail and office workers. Other than the neighboring residents, there are no nearby sensitive receptors, such as schools or hospitals. Construction noise is regulated by the San Francisco Noise Ordinance (Article 29 of the City Police Code). The ordinance requires that noise levels from individual pieces of construction equipment, other than impact tools, not exceed 80 dBA at a distance of 100 feet from the source. Impact tools (such as jackhammers and impact wrenches) must have both intake and exhaust muffled to the satisfaction of the Director of Public Works. Section 2908 of the Ordinance prohibits construction work between 8:00 p.m. and 7:00 a.m., if noise would exceed the ambient noise level by five dBA at the project property line, unless a special permit is authorized by the Director of Public Works. Compliance with the Noise Ordinance is required by law and would reduce construction noise impacts to a less-than-significant level.

Construction of other nearby developments, such as the approved high-rise residential towers at 300 Spear Street (three blocks to the north across Main Street) and 201 Folsom Street (two blocks to the north across Beale Street), the Bay Bridge West Approach retrofit, and other proposed development in Rincon Hill, to the extent that these would coincide with construction of the proposed project, would temporarily increase the overall noise levels in the immediate vicinity of construction activities, as the noise intensity would be greater with a larger number of noise sources.[24] Or, if construction were sequential, construction noise impacts could extend over a longer time period. However, noise from overlapping construction or construction in sequence would remain temporary and intermittent over about 25 months of the construction period. During interior finishing, noise impacts would be less.

At times during construction, noise levels would disturb surrounding building occupants and could interfere with indoor activities. Noise impacts would be temporary and intermittent in nature and limited to the period of construction. Further, project construction would comply with the San Francisco Noise Ordinance. Based on the above, construction noise would not be significant and requires no analysis in the EIR.

Conclusion

As described above, with implementation of noise insulation (the proposed perimeter glass wall for exterior spaces and window/wall and floor/ceiling assemblies for interior spaces), compliance with the State's Title 24 requirements, and compliance with the San Francisco Noise Ordinance regulations, the project would have less-than-significant effects associated with noise generated by the project and experienced by project residents. As such, the issue of noise will not be analyzed in the EIR.

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[24] When noise sources from more than one source are combined, the resulting noise levels (in dBA) add logarithmically, not arithmetically. Two equal noise levels combined will result in a 3 dBA (barely perceptible) increase. When two noise sources are 10 dBA or more apart, the lower value does not noticeably contribute to the total noise level. Source: EDAW, Inc., *One Rincon Hill Noise Study*, April 29, 2003.

6) Air Quality/Climate – Could the project:

	Yes	No	Discussed
(a) Violate any ambient air quality standard or contribute substantially to an existing or projected air quality violation?	To be determined		
(b) Expose sensitive receptors to substantial pollutant concentrations?	To be determined		
(c) Permeate its vicinity with objectionable odors?		X	X
(d) Alter wind, moisture or temperature (including sun shading effects) so as to substantially affect public areas, or change the climate either in the community or region?	To be determined		

Construction Emissions

Demolition, excavation, grading, foundation and other ground-disturbing construction activity would temporarily affect localized air quality for up to about ten months, causing a temporary increase in particulate dust and other pollutants.[25] Excavation and movement of heavy equipment could create fugitive dust and emit nitrogen oxides (NOx), carbon monoxide (CO), sulphur dioxide (SO_2), reactive organic gases, or hydrocarbons (ROG or HC), and particulate matter with a diameter of less than 10 microns (PM_{10}) as a result of diesel fuel combustion.

Dust emission during demolition and earthmoving would increase particulate concentrations near the site. Dust would be expected at times to fall on surfaces located within 200 to 800 feet of the project site. Under winds exceeding 12 miles per hour, localized effects including human discomfort could occur downwind from blowing dust. Construction dust is composed primarily of larger particles that settle out of the atmosphere more rapidly with increasing distance from the source and are easily filtered by human breathing passages. In general, construction dust would result in more of a nuisance than a health hazard in the vicinity of construction activities. About one-third of the dust generated by construction activities consists of smaller size particles in the range that can be inhaled by humans, known as PM_{10}, although those particles are generally inert. More of a nuisance than a hazard for most people, the dust could affect persons with respiratory diseases immediately downwind of the site, as well as sensitive, unprotected electronics equipment.

While construction emissions would occur in short term and temporary phases, they could cause adverse effects on local air quality. The Bay Area Air Quality Management District (BAAQMD), in its CEQA Guidelines, has developed an analytical approach that obviates the need to quantitatively estimate emissions. BAAQMD has identified a set of feasible PM_{10} control measures for construction activities. The project would include these measures to reduce the effects of construction activities to a less-than-significant level (see Mitigation Measure 1 on p. 45). San Francisco Ordinance 175-91, adopted by the Board of Supervisors on May 6, 1991, requires that non-potable water be used for dust control activities. Therefore, project contractors would obtain reclaimed water from the San Francisco Clean Water Program. Because the project would include the above mitigation measures, it would not cause significant project-specific construction-

[25] Project Management Advisors, Project Managers for the project sponsor, 2004.

related air quality impacts. Construction of other nearby developments, the Bay Bridge West Approach retrofit, and other proposed development on Rincon Hill, to the extent that these would coincide with construction of the proposed project, would temporarily increase the amount of construction emissions. Inclusion of the BAAQMD mitigation measures would similarly be expected to result in less-than-significant cumulative construction impacts. Therefore, construction air quality effects would be less than significant and the EIR will not address these effects.

Operational Traffic Emissions

Air quality impacts from the proposed project, as well as cumulative impacts related to development of the project and other projects in the vicinity, would occur due to increased traffic in the region. Region-wide emissions will be assessed in the EIR and compared to the BAAQMD's significance thresholds for regional impacts. Also of concern are CO emissions and the possibility of exceeding CO standards at congested intersections and nearby sensitive receptors, specifically neighboring residents. The impact of vehicular CO emissions on local ambient air quality will be assessed in the EIR. Carbon monoxide concentrations will be estimated for existing, existing-plus-project, and future-with-project conditions. The results of this analysis will be compared to State and Federal ambient air quality standards to evaluate impacts.

Objectionable Odors

The proposed project includes primarily new residential space, and to a lesser extent, related tenant amenities, convenience retail, and parking. These uses could require operation of natural gas-fired boilers or chillers that could emit trace quantities of toxic air contaminants, but they are not expected to have the potential to generate toxic air contaminants in substantial amounts or create objectionable odors. Therefore, this would be considered a less-than-significant effect and the EIR will not discuss this issue.

Wind

In order to provide a comfortable wind environment for people in San Francisco, the City established specific comfort criteria to be used in the evaluation of proposed buildings in certain areas of the City. The City Planning Code sets forth wind criteria for the Rincon Hill SUD, in which the site is located. Section 249.1(b)(3) establishes comfort criteria of 11 miles per hour (mph) equivalent wind speed for pedestrian areas and 7 mph for seating areas, not to be exceeded more than 10 percent of the time year-round, between 7:00 a.m. and 6:00 p.m. Developments that would cause wind speeds to exceed the comfort level are required to be designed to reduce the ambient winds speeds in the Rincon Hill SUD, if feasible. Section 249.1(b)(3) of the Planning Code also establishes as a hazard criterion an equivalent wind speed of 26 mph for a single full hour per year. No building or addition would be permitted that would cause wind speeds to exceed the hazard level more than one hour of any year. No exception may be granted to this criterion.

The project would include development that would range in height from approximately 50 feet to about 550 feet, about 370 feet taller than the tallest existing structure on the project site. Because the project would result in a substantial increase in height and mass on the site, and because of the requirements of Section 249.1(b)(3), the EIR will analyze the project's effects on existing wind conditions. A wind tunnel test will be performed and the effects of the project will be compared to the applicable criteria.

Shadow

Section 295 of the Planning Code was adopted in response to Proposition K (passed in November 1984) in order to protect certain public open spaces from shadowing by new structures during the period between one hour after sunrise and one hour before sunset, year round. Section 295 restricts new shadow upon public spaces under the jurisdiction of the Recreation and Park Department by any structure exceeding 40 feet unless the Planning Commission finds the impact to be insignificant. The proposed project, which includes structures up to 550 feet in height, is subject to Section 295. The results of the shadow fan analysis conducted by the Planning Department in accordance with Section 295 will be discussed in the EIR. The proposed project could increase shadows on other open spaces and sidewalks in the vicinity; therefore, a shadow study will be completed and the EIR will discuss the results.

7) Utilities/Public Services. Could the project:	Yes	No	Discussed
(a) Breach published national, State or local standards relating to solid waste or litter control?	___	X	X
(b) Extend a sewer trunk line with capacity to serve new development?	___	X	X
(c) Substantially increase demand for schools, recreation or other public facilities?	___	X	X
(d) Require major expansion of power, water, or communications facilities?	___	X	X

The project would increase development on the site. Thus, the project would increase demand for and use of public services and utilities on the site and would increase water and energy consumption, but not in excess of the amounts expected and provided for in this area. No need for an expansion of public utilities or public services facilities is anticipated due to the project.

Solid Waste

San Francisco's solid waste is disposed of at the Altamont Landfill. A substantial expansion of the landfill was approved in 1997 that will be able to accommodate San Francisco's solid waste stream well into the future. The solid waste associated with the project construction and operation would not substantially affect the projected life of the Altamont Landfill, and no associated significant impacts would occur. Therefore, the EIR will not discuss the issue of solid waste generation.

Sewer and Wastewater Treatment Plant Capacity

The project site is served by San Francisco's combined sewer system, which handles both sewage and stormwater runoff. No major new sewer connection would be needed to serve the proposed project. Wastewater treatment for the east side of the City is provided primarily by Southeast Water Pollution Control Plant. The project would meet wastewater pre-treatment requirements of the San Francisco Public Utilities

Commission, as required by the San Francisco Industrial Waste Ordinance.[26] The project would have little effect on the total wastewater volume discharged through the combined sewer system, particularly since stormwater runoff contributes greatly to the total flow and the site is already paved (resulting in maximum stormwater flows). The project would not result in a substantial increase in demand for wastewater treatment, and thus it would not result in a significant impact. The EIR, therefore, will not discuss demand on wastewater treatment facilities.

Public Services

Police and Fire Protection

The project site currently receives police and fire protection services, and would create additional demand for police and fire services in the area. The nearest police station is located at the Hall of Justice at 850 Bryant Street, approximately six blocks from the project site. Although the project could increase the number of calls received from the area or the level of regulatory oversight that must be provided as a result of the increased concentration of activity on the site, the increase in responsibilities would not likely be substantial in light of the existing demand for police protection services in the South of Market area. The nearest fire station, Engine 35, is located at Pier 22½ on The Embarcadero at Harrison Street, approximately five blocks from the project site. Although the project could increase the number of calls received from the area or the level of regulatory oversight that must be provided as a result of the increased concentration of activity on site, the increase in responsibilities would not likely be substantial in light of the existing demand for fire protection services in the Rincon Hill-Rincon Point area. Furthermore, the increase in demand would not require the construction of new police or fire prevention facilities, and thus would not result in an associated significant impact. For these reasons, the EIR will not discuss police or fire protection services.

Schools and Recreation Facilities

The nearest elementary school is the Bessie Carmichael Elementary School at 55 Sherman Street, the nearest middle school is the Potrero Hill Middle School at 655 De Haro Street, and the closest high school is Mission High School at 3750 18th Street. These schools would be able to accommodate any new students residing at the project site. The project population would not have an associated significant demand for schools and recreation facilities that could not be accommodated by existing facilities. This topic will not be discussed in the EIR.

Residential units in the greater downtown are less likely to be occupied with children than units elsewhere in the City. Even assuming the project's residential space were to be occupied by the number of children typical of San Francisco as a whole, there could be up to 107 school age children (spread amongst elementary, middle, and high school) living in the proposed residential units.[27]

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[26] City and County of San Francisco, Ordinance No. 19-92, San Francisco Municipal Code (Public Works), Part II, Chapter X, Article 4.1, January 13, 1992

[27] City and County of San Francisco Planning Department and San Francisco Redevelopment Agency, *Mission Bay Final Subsequent Environmental Impact Report*, Planning Department File No, 96.771 E, SCH No. 97092068, Volume IV, Appendices, L. Community Services and Utilities, pp. L.3-4 and Table L.1, p. L5, certified September 17, 1998. For typical San Francisco neighborhoods, this report assumes children of ages 5 to 9 comprise about 5.5% of the total population; children of ages 10 to 14 comprise about 6% of the total population; and children of ages 15 to 17 comprise about 3.3% of the total population. Therefore, there could be as many as 107 school age children amongst the projected 720 occupants of the proposed project.

Power and Communication Facilities

The project site is served by power and communication facilities. The proposed project would require typical utility connections and could tap into existing power and communications grids. Any relocation would be completed without interruption of service to adjacent properties. The discussion under Energy/Natural Resources on p. 34 includes additional information about demand for power facilities. No new power or communications facilities would be necessary as a result of project implementation.

The proposed project would increase demand for and use of public services, but not in excess of amounts expected and provided for this area. In recent years, San Francisco consumers have experienced rising energy costs and uncertainties regarding the supply of electricity. The root causes of these conditions are under investigation and are the subject of much debate. Part of the problem is thought to be that the State does not generate sufficient energy to meet its demand and must import energy from outside sources. Another part of the problem may be the lack of cost controls as a result of deregulation. The California Energy Commission (CEC) is currently considering applications for the development of new power-generating facilities in San Francisco, the Bay Area, and other parts of California. These facilities could supply additional energy to the power supply "grid" within the next few years. These efforts, together with conservation, will be part of the statewide effort to achieve energy sufficiency. The project would not be built and occupied until about 2008; therefore, additional generating facilities may have been completed by the time the project is in operation. The project-generated demand for electricity would be negligible in the context of the overall demand with San Francisco and the State, and would not in and of itself require a major expansion of power facilities. Therefore, the energy demand associated with the proposed project would not result in a significant physical environmental impact. This topic will not be discussed in the EIR.

8) Biology. Could the project:	Yes	No	Discussed
(a) Substantially affect a rare or endangered species of animal or plant or the habitat of the species?		X	X
(b) Substantially diminish habitat for fish, wildlife or plants, or interfere substantially with the movement of any resident or migratory fish or wildlife species?		X	X
(c) Require removal of substantial numbers of mature, scenic trees?		X	X

No known rare, threatened or endangered species are known to exist on the project site. The project site is in a developed urban area and does not support or provide habitat for any rare or endangered wildlife species. The project site is covered completely with impervious surface and therefore there are no trees or any other vegetation present. Approximately 20 non-native trees are located on the property adjacent to the project site on the west side of the Fremont Street exit. A few non-native trees previously existed on the adjacent Caltrans parcel to the southeast of the project site, yet due to the construction on the West Approach of the Bay Bridge in 2003, all of this vegetation was removed by Caltrans. According to a certified biologist who conducted a field visit on January 15, 2004, none of the vegetation in the immediate project site vicinity currently provides habitat for sensitive species.[28]

Because Peregrine Falcons have been identified in the area of the Bay Bridge, the biologist checked for nests during that same field visit and found that no Peregrine Falcon nests were visible on the western towers of the Bay Bridge. The biologist also determined that the westernmost tower of the Bay Bridge was of sufficient distance from the project site that the proposed project would not adversely affect any Peregrine Falcons if at some point in the future they did nest in the Bay Bridge's towers. Per standard buffer zones established by the California Department of Fish and Game for raptors, project construction would be more than 250 feet from any potential Peregrine Falcon nesting site (if one were to be located in a tower of the Bay Bridge). Therefore, the project would not have the potential to impact this species.

No sensitive biological resources exist on the site. Development of the site would not affect and would not result in significant impacts to plant or animal habitats. The project would not interfere with any resident or migratory species. Therefore, this topic requires no further analysis and will not be discussed in the EIR.

9) Geology/Topography. Could the project:	Yes	No	Discussed
(a) Expose people or structures to major geologic hazards (slides, subsidence, erosion and liquefaction)?	___	X	X
(b) Change substantially the topography or any unique geologic or physical features of the site?	___	X	X

Geologic Hazards

The General Plan's Community Safety Element contains maps that show areas of the City subject to geologic hazards. The project site is located in an area subject to "moderate" damage (Modified Mercalli Intensity Level VI to VII) from seismic groundshaking originated by a characteristic earthquake (Moment Magnitude 7.1) along the San Andreas Fault approximately six miles southwest of San Francisco, and the Northern Hayward Fault approximately 12 miles northeast of San Francisco (Maps 2 & 3 in the Community Safety Element). During a major earthquake on a segment of one of the nearby faults, strong groundshaking is expected to occur at the project site.[29] The project site is not in an area subject to landslide, seiche or tsunami run-up, or reservoir inundation hazards (Maps 5, 6, and 7 in the Community Safety Element).[30] The project site is not in an Alquist-Priolo Earthquake Fault Zone.[31] The project site is not mapped within a Seismic

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28 John Hindley, Wildlife Biologist, EDAW, Inc., conducted the site visit on January 15, 2004.

29 Treadwell & Rollo, Inc., *Updated Geotechnical Investigation Rincon Hill 425 First Street, San Francisco, California*, February 20, 2004 (hereinafter Treadwell & Rollo, *Geotechnical Investigation*), p. 11. This report is on file with the Planning Department, 1660 Mission Street, San Francisco, CA, and is available for public review as part of the project file.

30 City and County of San Francisco, *Community Safety Element, San Francisco General Plan*, April 1997.

31 California Division of Mines and Geology, *Fault Rupture Hazards Zone in California, Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zone Maps*, Special Publication 42, revised 1997, Figure 4B.

Hazards Study Zone (SHSZ) designated by the California Division of Mines and Geology and is not shown on this map as an area of liquefaction potential.[32]

A geotechnical investigation was prepared for the project site by a California licensed geotechnical engineer and is summarized here. [33] The project site slopes up from about 60 feet above sea level at the northeast corner of Harrison and Fremont Streets to about 108 feet above sea level at the southwest corner of the site. Along the west and southwest perimeter of the site, a steep cut slopes down to the First Street on-ramp to the Bay Bridge. Caltrans recently removed the crib wall that retained a portion of the cut and replaced it with a soldier beam and lagging retaining system. Caltrans plans call for a replacement retaining wall.[34] The 56,090 square-foot project site is occupied by a surface parking lot on its eastern side and a four-story office building (that includes a clock tower) and a three-story parking garage on its western portion.

The geotechnical investigation, including the review of a previous investigation conducted for the site,[35] indicates that the site is underlain by zero to 12 feet of fill consisting predominantly of medium stiff to very stiff sandy clay with gravel or loose to dense clayey gravel. The fill is underlain by bedrock along the western side of the property and in the eastern portion of the site. In the north central portion of the site the bedrock is capped with native soil to approximately 40 feet below existing grades. The native soil, consisting of very dense silty and clayey sand over hard sand clay with gravel, was encountered to depths between 3.5 and 25 feet below the floor slab in the existing building. The bedrock at the site consists predominantly of siltstone and sandstone of the Franciscan Complex. The siltstone encountered is typically deeply weathered and friable with low hardness, while the sandstone is typically moderately strong, moderately hard, moderately weathered, and intensely fractured.

Excavation associated with construction of the project is expected to expose bedrock across the majority of the site, including the entire footprints of both proposed towers.[36] Between two and five of the six parking levels of parking would be provided below existing grades at the site, requiring excavations up to about 60 feet, depending on foundation thickness. The lowest two proposed parking levels would bottom at approximately elevation 43.9 and 55.9 feet. Based on the geotechnical engineer's experience with several projects of a similar size where excavations extended at least 30 feet into Franciscan Complex, and because no settlement has been observed or reported due to rebound in the Franciscan Complex rock on the site, less than one inch of settlement is expected as a result of the project.

Groundwater was encountered in the bedrock on the site at depths of about 1 foot, 7 feet, and 21 feet below the existing parking lot grades and the lowest existing garage slab, corresponding to elevations 63.5, 59.5, and 46.5 feet, respectively. Groundwater at the site is likely confined to fractures and seams within the rock, and there is no evidence that the groundwater level has ever risen to the soil. Therefore, there is considered to be no liquefaction potential as a result of the proposed project. Accordingly, there is considered to be no potential for lateral spreading as a result of the project. The sand encountered at the site contains a large

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32 California Division of Mines and Geology, *Seismic Hazard Zones Map, City and County of San Francisco*, November 17, 2001.

33 Treadwell & Rollo, Inc., *Geotechnical Investigation*.

34 Ibid.

35 Subsurface Consultants, Inc., *Geotechnical Investigation, Seismic upgrade and Renovation, 425 First Street, San Francisco,* December, 1995.

36 Treadwell & Rollo, Inc., *Geotechnical Investigation*, p. 14.

amount of fines; therefore, the potential for differential compaction at the site is low. The site is not within an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act and no known active or potentially active faults exist on the site. Therefore, the risk of fault offset at the site from a known active fault is low.[37]

As discussed above, the site is not identified as being within a SHSZ. As noted, the project sponsor has prepared a geotechnical investigation report prepared by a California-licensed geotechnical engineer that is on file with the Planning Department and available for public review as part of the project file. The recommendations contained in the report, include, but are not limited to:

Foundations

The report recommends that the tower loads should be on a mat-type foundation. Spread footings and mats should bear in bedrock (at least three feet below the lowest adjacent subgrade), while the lowrise portions of the site, including the townhouse structures, be supported on either a mat or spread foundation system in bedrock. Footings or mats should be embedded a minimum of two feet below the lowest adjacent subgrade. If soil is exposed at the project foundation level, it should be removed to expose bedrock and the excavation should be backfilled with concrete to the design foundation bottom. Where adjacent finished floor elevations differ, the upper mats or footings would impose pressure on the adjacent lower walls and foundations. Either the lower walls and foundations should be designed to accommodate these additional pressures or the upper mats and footings should bear below an imaginary plane (1.5:1 horizontal to vertical) projected upwards from the bottom edge of the adjacent foundation. Care should be taken not to disturb rock adjacent to a lower cut as this would create a non-uniform bearing surface for the upper mat. Any rock that is disturbed should be removed and the void backfilled.

Excavation

Based on field exploration and review of schematic architectural sections, a good portion of the excavation would be into bedrock. Jack hammering or blasting may be required in areas of lower elevation areas, and areas of little weathered, fractured, or jointed rock, and in confined areas such as for footing excavations. The report recommends that the contract documents allow for a unit cost to excavate marginally rippable rock.

Shoring

The report recommends that where the proposed construction would extend below grade, the adjacent streets or ground should be prevented from moving by temporarily shoring the sides of the excavation. The report estimates that the shored height could be between 50 and 60 feet and that soil-nailing and soldier-pile-and-lagging shoring systems are suitable for the project. During excavation, the shoring system may yield and deform laterally, which could cause surrounding improvements to settle. The report recommends a monitoring program be established to evaluate the effects of the construction on the adjacent streets and other improvements. The contractor should be aware that there might be existing shoring elements behind the existing below-grade walls, which were installed for the existing buildings. The permanent shoring system(s) should be designed by a licensed structural engineer experienced in the design of retaining systems,

[37] Ibid, pp. 13-14.

and installed by an experienced specialty shoring contractor. The shoring engineer should be responsible for the design of temporary shoring in accordance with applicable regulatory requirements. The geotechnical engineer should review the shoring plans and observe the shoring installation.

Corrosion Potential

The report recommends protection against corrosion depending on the critical nature of the structure.

Site Demolition and Subgrade Preparation

The demolition contractor should remove the elements of the existing buildings (slabs, footings, and walls), underground utilities, and other obstructions encountered during excavation. Old foundation elements (e.g., footings, drilled piers, and grade beams) may be left in place if they are clear of the new building elements and approved by the geotechnical engineer. To minimize interference with new foundations, the project structural engineer should obtain and review existing foundation plans. Where a new footing is planned over an existing drilled pier, the top of the drilled pier should be cut off to the bottom of the new footing. New footing and subgrades/mat subgrades should be clear of loose material. Disturbed or loose material should be removed, and any overexcavation should be backfilled with lean or structural concrete.

Dewatering

Because perched groundwater could accumulate beneath the mats and/or slabs, an underslab drainage system consisting of a series of longitudinal and transverse trenches with free draining open-graded crushed rock and four-inch-diameter perforated PVC collector pipes should be installed. The underslab drainage should tie into the perimeter drain pipes that would collect water from the below-grade wall backdrains. Where moisture infiltration is considered undesirable, a waterproofing system consisting of a waterproofing membrane with a protective slab above and below it should be placed above the drainage bed. Where water vapor transmission through the floor may not be as critical, the engineer recommends installing a capillary moisture break and a water vapor retarder beneath the floor. The report recommends that these and other waterproofing and drainage details should be provided by a waterproofing and drainage consultant.

Permanent Basement Wall Design

The below-grade walls for the proposed structures should be designed to resist lateral pressures imposed by the soil and any adjacent surcharges. In addition, because the site is in a seismically active area, all below-grade walls should be designed to resist pressures associated with seismic forces. To reduce surcharge effects, footing and mats adjacent to walls, if any, should be bottomed below an imaginary line drawn upward at an inclination of 1.5:1 (horizontal to vertical) from the base of the wall.

The geotechnical report found the site suitable for development, providing that the recommendations included in the report were incorporated into the design and construction of the proposed development. The project sponsor has agreed to follow the recommendations of the report in constructing the project.

The Building Code contains provisions which require that grading on slopes of greater than 2:1, or where cut sections will exceed 10 vertical feet, must be done in accordance with the recommendations of a soil engineering report. The final building plans will be reviewed by the Department of Building Inspection

(DBI). In reviewing building plans, DBI refers to a variety of information sources to determine existing hazards and assess requirements for mitigation. Sources reviewed include maps of Special Geologic Study Areas and known landslide areas in San Francisco as well as the building inspectors' working knowledge of areas of special geologic concern. The above referenced geotechnical investigation would be available for use by DBI during its review of building permits for the site. Also, DBI could require that additional site-specific soils reports be prepared in conjunction with permit applications, as needed.

Topography/Unique Geological Features

As described above, the project would include six parking levels. Between two and five stories of the six parking levels would be below grade, requiring excavations to a depth of up to 60 feet below existing grade. However, despite the excavation beneath the proposed building footprints, the surrounding topography would not be substantially altered by the project, nor would the project affect any unique geologic or physical features of the site, assuming the recommendations of the geotechnical engineer are followed.[38]

Based on the above discussion, the project would not have a significant effect regarding geology, seismicity, and topography and this topic will not be included in the EIR.

10) Water. Could the project:	Yes	No	Discussed
(a) Substantially degrade water quality, or Contaminate a public water supply?	___	X	X
(b) Substantially degrade or deplete ground-water resources, or interfere substantially with groundwater recharge?	___	X	X
(c) Cause substantial flooding, erosion or Siltation?	___	X	X

Water Quality

The project would not substantially degrade water quality or contaminate a public water supply. The project site is entirely covered by impervious surfaces. The project would not increase the area of impervious surface on the site, and would not adversely alter the drainage pattern of the site. Sanitary wastewater from the proposed buildings and stormwater runoff from the project site would be collected and treated at the Southeast Water Pollution Control Plant prior to discharge into San Francisco Bay. Treatment would be provided pursuant to the effluent discharge limitations set by the Plant's National Pollutant Discharge Elimination System (NPDES) permit. Therefore, neither groundwater recharge nor runoff and drainage would be affected.

Reclaimed Water

The project site is within the Eastside Reclaimed Water Use Area designated by Section 1029 of the Reclaimed Water Use Ordinance (approved November 7, 1991), which added Article 22 to Part II, Chapter X of the San Francisco Municipal Code (Public Works Code). Effective 180 days from the date of the

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[38] Carey Ronan, Geotechnical Engineer, Treadwell & Rollo, telephone conversation with Dan Cohen, EDAW, Inc., March 4, 2004.

ordinance, non-residential projects over 40,000 sq. ft. which require a site permit, building permit, or other authorization, and are located within this area shall provide for the construction and operation of a reclaimed water system for the transmission of reclaimed water within buildings and structures. That is, the building would need to be designed with separate plumbing to service uses (e.g., toilets) that could employ reclaimed water. The ordinance also requires that owners, operators, or managers of all such development projects register their project with the Water Department. The Water Department will then issue a certificate of intention to use reclaimed water, and reclaimed water shall be used unless the Water Department issues a certificate exempting compliance because reclaimed water is not available, an alternative water supply is to be used, or the sponsor has shown that the use of reclaimed water is not appropriate. The appropriate use of reclaimed water, when it becomes available, would reduce consumption of potable water in the area.

Groundwater

A total of ten borings that tested for on-site groundwater were conducted as part of the geotechnical investigation conducted by the independent consultant. One of the borings was near the center of the site, six were on the northeastern portion of the site, and three were just to the west of the site along First Street.[39] Three of the ten borings, which were drilled to depths between 25 and 40 feet below existing grades, encountered groundwater. Groundwater was encountered in the bedrock on the site at depths of about 1 foot, 7 feet, and 21 feet below the existing parking lot grades and the lowest existing garage slab, corresponding to elevations 63.5, 59.5, and 46.5 feet, respectively. Of the other seven borings, no groundwater was encountered in four of them and the method of drilling used for three of them would have obscured any groundwater, if present. Groundwater at the site is likely confined to fractures and seams within the rock. The Hazards section of this document discusses groundwater in relation to potential for contamination.

As the project would involve excavation up to 60 feet on portions of the site, temporary localized dewatering of this perched groundwater would likely be required. Any groundwater encountered during construction would be subject to the requirements of the City's Industrial Waste Ordinance (Ordinance No. 199-77), requiring that groundwater meet specified standards before it may be discharged into the sewer system. The Bureau of Environmental Regulation and Management of the Department of Public Works must be notified if the project necessitates dewatering. That office may require water analysis before discharge. Should dewatering be necessary, a final soils report/foundation study would address the potential settlement and subsidence impacts of this dewatering. Based upon the discussion above, the report would contain a determination as to whether or not a lateral movement and settlement survey should be done to monitor any movement or settlement of surrounding buildings and adjacent streets. If a monitoring survey is recommended, the Department of Public Works would require that a Special Inspector (as defined in Article 3 of the Building Code) be retained by the project sponsor to perform this monitoring.

Groundwater observation wells would be installed to monitor potential settlement and subsidence. If, in the judgment of the Special Inspector, unacceptable movement were to occur during dewatering, groundwater recharge would be used to halt this settlement. Costs for the survey and any necessary repairs to service lines under the street would be borne by the project sponsor. Oversight by the Bureau of Environmental

[39] Ibid, Figure 2.

Regulation and Management and implementation of the recommendations of the project soils engineer regarding potential dewatering during project construction would ensure no substantial adverse effects related to dewatering would occur.

Flooding, Erosion, and Siltation

The project site is entirely covered by structures and pavement. Therefore, the project would not substantially affect the area of impervious surface at the site or adversely alter site drainage.[40] Because the project would be designed to meet current standards, the project could potentially improve drainage conditions on the site. Project-related wastewater and storm water would continue to flow to the City's combined sewer system and would be treated to standards contained in the City's NPDES permit for the Southeast Water Pollution Control Plant prior to discharge. During construction, requirements to reduce erosion would be implemented pursuant to California Building Code Chapter 33, Excavation and Grading. During operations, the project would comply with all local wastewater discharge requirements.

Soil would be exposed during site preparation (approximately three months), and due to the slope of the project site, special measures would have to be used by the construction crew to minimize runoff and to trap the erosion and siltation that could possibly occur. The geotechnical engineer's report recommends that these measures include coordination with Caltrans to ensure that siltation and erosion would not impact the adjacent Caltrans property and vice versa. Substantial erosion would not be expected to occur due to this project.

Based on the discussion above, the project would result in less-than-significant water effects and, therefore, the EIR will not include analysis of hydrology and water quality issues.

11) <u>Energy/Natural Resources</u>. Could the project:	<u>Yes</u>	<u>No</u>	<u>Discussed</u>
(a) Encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner?	___	X	X
(b) Have a substantial effect on the potential use, extraction, or depletion of a natural resource?	___	X	X

Energy Use

The proposed project would include new residential units, convenience retail, open space, and parking areas. Development of these uses would not result in use of large amounts of fuel, water or energy in the context of energy use throughout the City and region. The project demand would be typical for a development of this scope and nature and would comply with current State and local codes concerning energy consumption, including Title 24 of the California Code of Regulations enforced by the Department of Building Inspection. For this reason, the project would not cause a wasteful use of energy, and would have a less than significant impact on energy and natural resources.

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40 As indicated above in the discussion of Biology, the unpaved area at the edge of the site on which trees were located is not part of the project site. That property is owned by Caltrans.

Because the project would comply with the energy efficiency regulations of Title 24, it would not be considered to use energy wastefully. Based on this evaluation, no substantial environmental impacts related to energy use are expected from the proposed project, and energy consumption will not be discussed in the EIR.

Natural Resource Use

Other than natural gas and coal fuel used to generate the City's electricity that would also service the project, the project would not use substantial quantities of other non-renewable natural resources. Therefore, the project would not have a substantial effect on the use, extraction, or depletion of a natural resource; and this topic is not required to be analyzed in the EIR.

12) Hazards. Could the project:	Yes	No	Discussed
(a) Create a potential public health hazard or involve the use, production or disposal of materials which pose a hazard to people or animal or plant populations in the area affected?	___	X	X
(b) Interfere with emergency response plans or emergency evacuation plans?	___	X	X
(c) Create a potentially substantial fire hazard?	___	X	X

Public Health Hazards and Hazardous Materials

Hazardous Materials Use

The proposed project would involve a residential development (including 3,550 gsf of retail space) that would require relatively small quantities of hazardous materials for routine household and business purposes, during project operation. Maintenance for the project may need to comply with San Francisco Health Code (SFHC) Article 21, the hazardous materials ordinance. Contractors during construction may need to get Hazardous Materials permits for storage; thresholds are 55 gallons, 500 lbs or 200 cubic feet of compressed gas. If thresholds are not met, then a disclaimer needs to be submitted. The project would likely require common types of hazardous materials, such as paints, cleaners, toners, solvents, and disinfectants. These commercial products are labeled to inform users of potential risks and to instruct them in appropriate handling and disposal procedures. Most of these materials are consumed through use, resulting in relatively little waste. For these reasons, hazardous materials required for the project would not pose a substantial public health or safety hazards related to hazardous materials, and no significant impact would occur.

Site Conditions

Soils

The site was previously used as residential property from prior to 1887 to approximately 1941, when the first portion of the existing four-story office building was constructed. The site was used as offices (with associated parking) until the building was vacated in late 2002. The parking structure, constructed in 1955, continues to be used for public parking.

An Environmental Site Assessment (Phase I), a geotechnical investigation, and an Environmental Site Characterization (Phase II) were prepared for the project site and/or for the project by independent contractors, and are summarized in this section of the Initial Study.[41] A Unocal Service Station was located on the eastern portion of the site (401 Harrison) from approximately 1949 to approximately 1974.[42] According to documents reviewed at the San Francisco Department of Public Health (SFDPH), soil sampling and chemical analyses were performed in the vicinity of the former fuel and waste oil underground storage tanks (USTs), underground piping trenches, the former product pump island, and the former hydraulic lift, all of which were associated with the former service station. According to a 1994 soil sampling report, the petroleum hydrocarbon-impacted soil associated with the service station activities was excavated and removed from the site. Subsequently, the SFDPH Local Oversight Program, the overseeing agency for UST closures in San Francisco, issued a case closure letter for this site in which it stated "no further action" related to the UST release was required.[43] The project site was referenced in the Federal Agency Database Findings (Federal RCRA Generators) and the State Agency Database Findings (EPA HAZNET List & FINDS), but it was not referenced on any local lists.[44]

The project site is underlain by 0 to 12 feet of fill consisting predominantly of medium stiff to very stiff sandy clay with gravel or silty gravel. The fill is underlain by bedrock along the western side of the property and in the eastern portion of the site. In three borings on the eastern part of the site, bedrock was encountered directly beneath the pavement section. In the north central portion of the site, the bedrock is capped with native soil to approximately 40 feet below existing grades. This native soil consists of very dense silty and clayey sand and hard sandy clay with gravel. Native soil was encountered in depths between 3.5 to 25 feet below the floor slab in the existing office building. Hydrocarbon-affected soil was removed from portions of the site and up to 12 feet of engineered fill was placed on site.

The bedrock at the site consists of interbedded siltstone and sandstone of the Franciscan Complex. The siltstone interbeds are typically deeply weathered and friable with low hardness, while the sandstone is typically moderately strong, moderately hard, moderately weathered, and intensely fractured.

The project site is located in an area of the City subject to the requirements of Article 22A of the San Francisco Public Health Code, known as the Maher Ordinance. The Maher Area encompasses the area of the City bayward of the original high tide line (largely the part of San Francisco created by landfill) where past industrial land uses and debris fill associated with the 1906 earthquake and bay reclamation often left hazardous waste residue in local soils and groundwater. Article 22A of the Health Code requires that, if more

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41 Phase I: ATC, Inc., *Phase I Environmental Site Assessment on the Bank of America Clocktower*, October 29, 2001 (hereinafter ATC, *Phase I*). Geotechnical report: Treadwell and Rollo, *Updated Geotechnical Investigation,* February 20, 2004. Phase II: Treadwell and Rollo, *Updated Environmental Site Characterization, Rincon Hill, 425 First Street*, February 17, 2004 (hereinafter Treadwell & Rollo, *Phase II*). These documents are on file and available for review by appointment at the San Francisco Planning Department, 1660 Mission Street, San Francisco, Project File No. 2003.0029E.

42 ATC, *Phase I.*

43 Treadwell and Rollo, *Phase II.*

44 ATC, Inc., *Phase I.*

than 50 cubic yards of soil are to be disturbed (as is the case for the proposed project), applicants for building permits must prepare a site history and analyze the site's soil for hazardous wastes. San Francisco Building Code Section 106.3.2.4, Hazardous Wasters, relates to implementation of the ordinance, including review by the Department of Public Health (DPH).

In compliance with Article 22A, a site history and data search (the Phase I), and site investigative report (the Phase II), have been prepared for the project site by independent consultants. For the Phase II study, samples of the fill material from 10 exploratory borings (conducted in March and May of 2003) were collected, chemically tested, and evaluated. The objective of the study was to assess the possible presence of petroleum hydrocarbons, heavy metals, and other potential contaminants in the soil at the project site. Concentrations of chemical compounds detected in the soil samples were compared to State and Federal criteria for hazardous waste and disposal options. On the basis of these comparisons, preliminary recommendations regarding the presence of hazardous materials at the site, as well as preliminary soil handling procedures, were made.

A total of 22 samples taken from the 10 borings were submitted for chemical analysis. In accordance with Article 22A, the soil samples were analyzed for total lead, total recoverable petroleum hydrocarbons (TRPH), total petroleum hydrocarbons as diesel (TPHd), total petroleum hydrocarbons as motor oil (TPHmo), total petroleum hydrocarbons as gasoline (TPHg), as well other contaminants.

TRPH were detected in three of the 22 soil samples, at concentrations ranging from 61 to 240 milligrams per kilograms (mg/kg). TPHd were detected in two samples at concentrations of 8.5 and 1.3 parts per million (ppm). TPHmo were detected in one sample at a concentration of 71 ppm. Analytical results indicate that TRPH, TPHd, and TPHmo were not detected at or above the laboratory reporting limits in any of the other analyzed samples. No TPHg, polychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons (PAHs), sulfide, cyanide, asbestos, or benzene, toluene, ethylbenzene and xylenes (BTEX) or halogenated volatile organic compounds (HVOCs) were detected at or above the laboratory reporting limits in any of the samples.

As noted, all of the soil samples collected were also analyzed for total lead. Total lead was detected in all of the soil samples analyzed. All but one of the samples indicated a total lead concentration of less than 30 parts per million (ppm). Total lead was detected in one sample (taken from boring B-1 in the First Street right-of-way near Harrison Street, immediately to the west of the project site) at a concentration of 1,400 ppm, exceeding the State hazardous waste criterion of 1,000 ppm. This result indicates that soil exceeding State hazardous waste criteria exists in the area of boring B-1. Low levels of a variety of other metals, including antimony, barium, beryllium, cadmium, chromium, cobalt, copper, nickel, vanadium, zinc, arsenic, and mercury were also detected.[45]

Because hazardous concentrations of lead were detected at the site, the project sponsor must submit a Site Mitigation Plan (SMP) to the Department of Public Health (DPH), and implement the approved SMP before the Department of Building Inspection issues a building permit. Where toxics are found, for which no standards are established, the sponsor would request a determination from the DPH as to whether an SMP or addendum is needed. The Department of Public Health implements Article 22A of the Health Code and would require full compliance with Article 22A prior to construction of the proposed project. In accordance

[45] As reported in Treadwell and Rollo, *Phase II.*

with Article 22A, the construction contractor would handle and dispose of excavated soils properly, employ worker health and safety and dust control procedures, and have a State Registered Professional Geologist or Engineer certify, at the completion of foundation activities, that all elements of the SMP have been performed in compliance with the regulations. Compliance with the Article 22A and associated coordination with DPH would reduce any potential impacts related to contaminated soil or groundwater to a less-than-significant level. (see Mitigation Measure 2, p. 44-46)

The Phase II concludes that based on the elevated total lead concentration, the shallow fill material, up to about 2 feet in depth in the area of boring B-1 (the northwest corner of the site), would likely require disposal at a regulated Class I hazardous waste landfill. The remaining fill material would likely need to be disposed of at either a Class II or Class III non-hazardous waste landfill. The native soil and bedrock underlying the fill material could likely be disposed of at a Class III landfill.

Because hazardous materials were detected at the site, an SMP and a Health and Safety Plan (HSP) would be required prior to construction, as noted. The SMP will include a soil-handling plan which segregates Class I from Class II or III fill material, and isolates fill material from the underlying native soil. The HSP would outline proper handling procedures and health and safety requirements to minimize worker and public exposure to hazardous materials during construction. During construction, on-site observation of soil stockpiling and sample collection should be performed for a more focused disposal characterization of the soil schedule for off-site disposal. The project sponsor has agreed to follow the recommendations of the report.

Hazardous Building Materials

In 2002, an asbestos assessment of the existing building on the project site was conducted.[46] A licensed asbestos inspector collected 13 Asbestos Containing Material (ACM) samples and two samples of paint. The samples were sent to Micro Analytical Laboratories for analysis. According to the letter report, no asbestos was detected in any of the 13 suspected ACM samples. The letter report stated that a full interior asbestos abatement had been conducted in 1995, when Bank of America purchased this site, and a letter summarizing the analysis concluded that "it seems safe to assume that the asbestos which was used in the initial construction of the building has been removed and there will be no asbestos problem during demolition."

The existing structures on the project site were constructed prior to 1970. In the past, asbestos, PCBs, and lead were commonly installed in such materials as fire proofing, floor tiles, roofing tar, electrical transformers, fluorescent light ballasts, and paint. Mercury is common in electrical switches and fluorescent light bulbs. Therefore, the structures on site may contain hazardous materials, such as asbestos, polychlorinated biphenyls (PCBs), lead, mercury, or other hazardous materials. If such hazardous materials exist in a building when it is demolished, they could pose hazards to workers, neighbors, or the natural environment.

Although asbestos was removed from the office building on the site, it is possible that asbestos-containing materials may be found within one of the two existing structures on site, both of which are proposed for

[46] Richard Bell, Ph.D., Luce Forward, LLP, Letter to Mr. Michael Kriozere, project sponsor, Urban West Associates of San Diego, October 17, 2002.

demolition as part of the project. Section 19827.5 of the California Health and Safety Code, adopted January 1, 1991, requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable Federal regulations regarding hazardous air pollutants, including asbestos. The Bay Area Air Quality Management District (BAAQMD) is vested by the California legislature with authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement, and is to be notified ten days in advance of any proposed demolition or abatement work.

Notification includes the names and addresses of operations and persons responsible; description and location of the structure to be demolished/altered including size, age and prior use, and the approximate amount of friable asbestos; scheduled starting and completion dates of demolition or abatement; nature of planned work and methods to be employed; procedures to be employed to meet BAAQMD requirements; and the name and location of the waste disposal site to be used. The District randomly inspects asbestos removal operations. In addition, the District will inspect any removal operation concerning which a complaint has been received.

The local office of the State Occupational Safety and Health Administration (OSHA) must be notified of asbestos abatement to be carried out. Asbestos abetment contractors must follow State regulations contained in 8CCR1529 and 8CCR341.6-341.14 where there is asbestos-related work involving 100 sq. ft., or more, of asbestos-containing material. Asbestos removal contractors must be certified as such by the Contractors Licensing Board of the State of California. The owner of the property where abatement is to occur must have a Hazardous Waste Generator Number assigned by and registered with the Office of the California Department of Health Services in Sacramento. The contractor and hauler of the material is required to file a Hazardous Waste Manifest which details the hauling of the material from the site and the disposal of it. Pursuant to California law, the DBI would not issue the required permit until the applicant has complied with the notice requirements described above. These regulations and procedures, already established as a part of the permit review process, would insure that any potential impacts due to asbestos would be reduced to a level of insignificance.

Regarding lead paint, the report concludes that there was lead paint found in the paint on the walls of the boiler room and the mechanical room, and that "[i]f loose paint is removed before demolition, the paint adhering to the concrete walls should present no problem. At demolition, the lead concentration is based on the entire waste stream and from what we observed; there is not enough paint to present a problem." Regardless, demolition activities must comply with Chapter 36 of the San Francisco Building Code, Work Practices for Exterior Lead-Based Paint. Where there is any work that may disturb or remove lead paint on the exterior of any building built prior to December 31, 1978, Chapter 36 requires specific notification and work standards, and identifies prohibited work methods and penalties.

Chapter 36 applies to buildings or steel structures on which original construction was completed prior to 1979 (which are assumed to have lead-based paint on their surfaces), where more than ten total square feet of lead-based paint would be disturbed or removed. The ordinance contains performance standards, including establishment of containment barriers that are at least as effective at protecting human health and the environment as those in the HUD Guidelines (the most recent Guidelines for Evaluation and Control of

Lead-Based Paint Hazards) and identifies prohibited practices that may not be used in disturbance or removal of lead-based paint. Any person performing work subject to the ordinance shall make all reasonable efforts to prevent migration of lead paint contaminants beyond containment barriers during the course of the work, and any person performing regulated work shall make all reasonable efforts to remove all visible lead paint contaminants from all regulated areas of the property prior to completion of the work.

The ordinance includes notification requirements, contents of notice, and requirements for signs. Notification includes notifying bidders for the work of any paint-inspection reports verifying the presence or absence of lead-based paint in the regulated area of the proposed project. Prior to commencement of work, the responsible party (owner or contractor) must provide written notice to the Director of Building Inspection of the location of the project; the nature and approximate square footage of the painted surface being disturbed and/or removed; anticipated job start and completion dates for the work; whether the responsible party has reason to know or presume that lead-based paint is present; whether the building is residential or non-residential, owner-occupied or rental property; the approximate number of dwelling units, if any; the dates by which the responsible party has or will fulfill any tenant or adjacent property notification requirements; and the name, address, telephone number, and pager number of the party who will perform the work. (Further notice requirements include Sign When Containment is Required, Notice by Landlord, Required Notice to Tenants, Availability of Pamphlet related to protection from lead in the home, Notice by Contractor, Early Commencement of Work [by Owner, Requested by Tenant], and Notice of Lead Contaminated Dust or Soil, if applicable.) The ordinance contains provisions regarding inspection and sampling, and enforcement, and describes penalties for non-compliance with the requirements of the ordinance.

These regulations and procedures required as part of the San Francisco Building Code would ensure that potential impacts due to lead-based paint would be reduced to a level of insignificance.

Other potential hazardous building materials such as potentially PCB-containing electrical equipment or fluorescent lights could pose health threats for demolition workers but would be mitigated by abatement as necessary. Mitigation is included in the project to reduce impacts of hazardous building materials (see Mitigation Measure No. 2b, p. 45).

Emergency Response Plans

The project involves construction of 720 dwelling units, primarily in two towers, with a lesser number of five-story townhouses. Occupants of the proposed buildings would contribute to congestion if an emergency evacuation of the greater downtown area were required. Section 12.202(e)(1) of the San Francisco Fire Code requires that all owners of high-rise buildings (over 75 feet) "establish or cause to be established procedures to be followed in case of fire or other emergencies. All such procedures shall be reviewed and approved by the chief of division (fire)." Additionally, project construction would have to conform to the provisions of the Building and Fire Codes which require additional life-safety protections for high-rise buildings. Substantial interference with emergency response plans or emergency evacuation plans due to the project would not be expected.

Fire Safety

The City of San Francisco ensures fire safety primarily through provisions of the Building Code and Fire Code. The final building plans for any new residential project greater than two units are reviewed by the San Francisco Fire Department, as well as the Department of Building Inspection, to ensure conformance with these provisions. The project would conform to these standards, which (depending on building type) may also include development of an emergency procedure manual and an exit drill plan. In this way, potential fire hazards (including those associated with hillside development, hydrant water pressure, and emergency access) would be mitigated during the permit review process. Therefore, these issues would not result in a significant effect and will not be analyzed in the EIR.

As a result of implementing the regulations discussed above, potential health and safety issues related to building contamination, soil contamination, emergency procedures, fire hazards, and remediation would be reduced to less-than-significant levels. Therefore, hazards issues do not require further analysis and will not be discussed in the EIR.

13) Cultural. Could the project:	Yes	No	Discussed
(a) Disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group; or a paleontological site except as a part of a scientific study?		X	X
(b) Conflict with established recreational, educational, religious or scientific uses of the area?		X	
(c) Conflict with the preservation of buildings subject to the provisions of Article 10 or Article 11 of the City Planning Code?	To be determined		

Archaeological Resources

The *San Francisco-Oakland Bay Bridge, West Approach Replacement: Archaeological Research Design and Treatment Plan,* prepared by the Anthropological Studies Center (ASC) at Sonoma State University for the California Department of Transportation (Caltrans District 4), was published in July 2000. The project site includes part of what was designated as Block 8 in that study. As such, under the direction of the Planning Department, a supplemental cultural resources evaluation was prepared as an addendum to the Caltrans report to supplement that document's information regarding the portions of the project block not studied therein but a part of the project site.[47] The supplemental evaluation discusses the historical development of the project block and its former inhabitants, describes existing conditions on the site, and identifies and describes archaeologically sensitive areas, the significance of existing resources, the potential impacts of the project on those resources, and recommendations for testing on the site.

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47 Anthropological Studies Center, Sonoma State University, *Archaeological Resources Study For 425 First Street, San Francisco,* August, 2003. This report is on file with the Planning Department, 1660 Mission Street, San Francisco, CA.

The interpretation and recommendations in the supplemental evaluation are based on an extension of focused historical and archaeological research conducted for the San Francisco-Oakland Bay Bridge West Approach Seismic Retrofit project. Archaeologists undertook extensive excavations for that project in the immediate vicinity of the project site, between Fremont and Fourth Streets, between May 2001 and January 2003. Anthropological Studies Center staff also targeted excavation on the I-80 Bayshore Viaduct Seismic Retrofit Project under the elevated section of I-80, from 5th to 16th Streets, between 1998 and 2001. The archaeological conclusions in the supplemental evaluation are based on that fieldwork.

According to the addendum to the Caltrans report prepared for the proposed project, the part of the project block fronting First Street was initially an extension of the Rincon Hill residential neighborhood, which included the area from Folsom and First Streets to Third Street between Harrison and Bryant Streets. The 1857/59 Coast Survey map shows that houses on lots of varying size already covered portions of the block by 1857. By 1887 most of the available land on the western part of the block was covered with houses. After the 1906 fire destroyed these houses, much of the block remained vacant, with only marginal rebuilding. Spacious houses along First Street were replaced after 1906 with cottages and shanties, which in turn were demolished for the Rincon Hill footing of the Bay Bridge in the 1930s. Unlike much of the rest of Rincon Hill, this block was not taken over by industry after the fire because of its isolated location and poor vehicular access.

The findings of the project addendum to the Caltrans report indicate that despite the general rocky nature of the soil and considerable earthmoving activities that have taken place on the project site (including the removal of part of Rincon Hill and the construction of the existing building on the site), truncated archaeological features may have survived, such as privies and wells containing artifacts associated with the early residents of this once exclusive neighborhood. Artifact-rich deposits connected with the households of influential and affluent families from the 1850s would be very important to understanding life at that time and place and may be eligible for the California Register of Historical Resources (CRHR). The project site has a low sensitivity for significant/intact buried prehistoric archaeological deposits, however, due to the nature and age of its geologic landforms and high level of historic disturbance. Some isolated or redeposited prehistoric materials may be present, but the potential is very low. As such, the area was determined to not be sensitive for prehistoric archaeological resources.

The addendum identified archaeologically sensitive areas (ASAs) anticipated on the project site. Any Gold Rush-period domestic sites that survive on the project site are likely to be eligible to the CRHR and thereby possess legal significance by virtue of their age and rarity, in addition to their association with a historical event of national significance. Domestic deposits dating from the Gold Rush would provide important temporal depth to data that could be used to address research issues outlined in the Caltrans report, specifically Theme H-A (Consumer Behavior/Strategies) and possibly Theme H-E (Urban Geography).

Archaeological features located behind and associated with the 19th century residences in designated ASAs along Fremont, First, and Harrison streets may be potentially important under CRHR criteria. These sites widen the social, economic, and occupational characteristics of the households under study and would enable researchers to address issues raised in Theme H-A (Consumer Behavior/Strategies), Theme H-B (Ethnicity/Urban Subcultures), and Theme H-E (Urban Geography) identified in the Caltrans report.

Archaeological deposits associated with the residents of these lots would be important components of a contextual approach to an understanding of this well-to-do neighborhood.

According to the addendum, locations at 402 Fremont, 415 to 421 Harrison, and 405, 407, 409, 413, and 417 First Street offer valuable time depth, having been built before 1857/59 as part of the well-to-do Rincon Hill neighborhood. With the exception of 402 Fremont and its disappearance in the 1880s, the long-term occupation of these houses—from at least 1856 through 1900—would offer the opportunity to examine the effects of Rincon Hill's declining fortunes on several families over time.

According to the addendum, the 1906 fire burned through the project site. In addition to their value as stratigraphic markers, deposits related to the 1906 earthquake and fire may contribute greatly to the research themes outlined in the research design. Since these deposits effectively represent a "moment in time," they may be able to provide valuable diachronic[48] data on questions related to Consumer Behavior/Strategies (Theme H-A), Ethnicity and Urban Subcultures (Theme H-B), and Urban Geography (Theme H-E) of the Caltrans report. As the construction date of several houses is known, and the earthquake and fire represent a terminal date, deposits associated with these properties may also contribute to understanding the problems of artifact time lag—the period between manufacture, use, and discard of materials in an archaeological context—which is crucial to accurately dating sites.

The post-1906-fire development of the block with "cheap shacks" was in marked contrast to the middle- and upper-class homes built there just over a half-century earlier. These shacks would have constituted the lowest standard of housing in San Francisco, just one block from what was once the most fashionable block on the hill. If any such shacks were built on the project site and their remains survived—unlikely according to the addendum—refuse associated with these households has the potential to contribute valuable comparative data to research issues in Consumer Behavior/Strategies (Theme H-A), Ethnicity/Urban Subcultures (Theme H-B), and particularly Urban Geography (Theme H-E) as identified in the Caltrans research design.

The proposed project would involve demolition of the existing structures on the project site and the construction of a new residential development. The geotechnical report calls for the project's buildings to be supported by a combination of spread footings and mats in bedrock, which varies from directly beneath the surface up to 60 feet deep below existing grades. Elevations on the project site range from 60 feet above sea level at the northeast corner of Harrison and Fremont Streets to about 108 feet above sea level at the southwest corner of the site. Excavation as deep as 60 feet below existing grade and as deep as 55 feet below existing foundations would be required, with the lowest two proposed parking levels bottomed at approximately elevation 43.9 and 55.9 feet.[49] Thus, without appropriate mitigation, construction activity could damage or destroy any archaeological deposits encountered on the site. Consequently, the extent of potential subsurface disturbance on the project site is sufficient to require archaeological intervention to determine if CRHR eligible features are present.

48 Diachronic means the study of a phenomenon as it changes through time.

49 Treadwell & Rollo, Inc., *Geotechnical Investigation*, p. 3 and Cary Ronan, Geotechnical Engineer, Treadwell & Rollo, telephone conversation with Dan Cohen, EDAW, Inc., April 26, 2004.

Archaeological testing is recommended by the archaeological consultant for all ASAs that are accessible and likely to be impacted by construction activities. These areas include domestic occupation sites dating from the 1850s to 1906 and deposits related to the 1906 earthquake. The purpose of testing is to locate refuse-filled privies and wells that can be associated with the residents of Rincon Hill and that can be used to address the research questions posed in Section 4 of the *San Francisco-Oakland Bay Bridge, West Approach Replacement: Archaeological Research Design and Treatment Plan.* The addendum concludes that deposits that meet these criteria may be eligible to the CRHR.

The project includes Mitigation Measure 3 (see p. 47), which would require archaeological testing, monitoring, and data recovery programs. Implementation of this mitigation measure would reduce the potential impact to subsurface archaeological cultural resources to a less than significant level, and this topic requires no further analysis in the EIR.

Historic Architectural Resources

The project would involve demolition of all structures on the site, that is, the building complex consisting of Bank of America offices with its clock tower and garage. This building complex (with its garage and clock tower), was formerly the Union Oil Company Building. The office building component of the complex is a Moderne building designed by Lewis Hobart and built in 1941. In the 1950s, the building was enlarged and subsequently altered, including construction of the parking garage and construction of the current clock tower replacing the original rectangular clock tower. The building is identified in the Rincon Hill Area Plan of the General Plan (Objective 27), as a significant building and is one of eight buildings identified for preservation. The Citywide 1976 architectural survey rated the building as a "4" on a scale of 0-5 (with "5" being the highest rating), indicating that the building was deemed architecturally important in that survey.

Further information is needed to determine whether the building and/or complex is an historic resource under CEQA. A historic resource evaluation has been prepared for the site buildings by an independent consultant. The EIR for the project will summarize the report's findings.

C. OTHER

	Yes	No	Discussed
Require approval and/or permits from City Departments other than the Planning Department, or Department of Building Inspection, or from Regional, State or Federal Agencies?	X		X

As identified and discussed above in Section III.A, Compatibility with Existing Zoning and Plans (p. 10), the project would require issuance of a building permit from the Department of Building Inspection. The project would also require approval from the Department of Public Works and the Department of Parking and Traffic for the provision of the new parking curb cut, entrance turnaround and pick-up/drop-off on the First Street right-of-way, entry to loading dock, as well as replacement of curbs, gutters and sidewalks on Harrison Street. The project requires DPW approval of a revocable encroachment permit to use the First Street stub as vehicular access to the project. Project approvals are discussed in Section III.A, p. 11, and will be included in the EIR for informational purposes.

D. MITIGATION MEASURES

	Yes	No	N/A	Discussed
1) Could the project have significant effects if mitigation measures are not included in the project?	X			X
2) Are all mitigation measures necessary to eliminate significant effects included in the project?	X			X

Mitigation measures necessary to focus topics out of the EIR are identified herein. The following mitigation measures relate to topics determined to require no further analysis in the EIR. The EIR will contain a mitigation chapter describing these measures, and other measures which would be, or could be, adopted to reduce significant adverse effects of the project, identified in the EIR.

The project sponsor has agreed to implement the following mitigation measures that are necessary to avoid potential significant effects as identified in this Initial Study.

Mitigation Measure 1 – Construction Air Quality

To reduce particulate emissions, the project sponsor shall require the contractor(s) to spray the project site with water during demolition, excavation and construction activities; sprinkle unpaved exterior construction areas with water at least twice per day, or as necessary; cover stockpiles of soil, sand, and other material; cover trucks hauling debris, soil, sand or other such material; and sweep surrounding streets during demolition excavation and construction at least once per day. Ordinance 175-91, passed by the Board of Supervisors on May 6, 1991, requires that non-potable water be used for dust control activities. Therefore, the project sponsor would require that the contractor(s) obtain reclaimed water from the Clean Water Program for this purpose.

The project sponsor shall require the project contractor(s) to maintain and operate construction equipment so as to minimize exhaust emissions of particulates and other pollutants, by such means as prohibiting idling motors when equipment is not in use or when trucks are waiting in queues, and implementing specific maintenance programs to reduce emissions for equipment that would be in frequent use for much of the construction period.

Mitigation Measure 2 – Hazards

Step 1: Preparation of a Site Mitigation Plan:

Soil and groundwater samples shall be characterized (analyzed) for metals, petroleum hydrocarbons and gasoline/diesel components, volatile and semi-volatile organic compounds, and/or other constituents, as requested by the Department of Public Health (DPH). In addition, groundwater characterization shall be carried out for total suspended solids, total settleable solids, pH, total dissolved solids, and turbidity. Samples shall be analyzed by State-accredited laboratories. Based on the results of soil and groundwater characterization, a Site Mitigation Plan shall be prepared by a qualified individual, in coordination with DPH and any other applicable regulatory agencies. The sampling and studies shall be completed by a Registered

Environmental Assessor or a similarly qualified individual. Excavated soils shall be disposed of in an appropriate landfill, as governed by applicable laws and regulations, or other appropriate actions shall be taken in coordination with DPH.

Step 2: Site Health and Safety Plan

Prior to conducting any remediation activities, a Site Health and Safety Plan would be prepared pursuant to California Division of Occupational Safety and Health guidance to ensure worker safety. Under CAL-OSHA requirements, the Site Health and Safety Plan would need to be prepared prior to initiating any earth-moving activities at the site. The Site Health and Safety Plan shall identify protocols for managing soils during construction to minimize worker and public exposure to contaminated soils. The protocols shall include at a minimum:

- Characterization of excavated native soils proposed for use on site prior to placement to confirm that the soils meet appropriate standards.
- The dust controls specified in Air Quality Mitigation Measure 1.
- Protocols for managing stockpiled and excavated soils.

The Site Health and Safety Plan shall identify site access controls to be implemented from the time of surface disruption through the completion of earthwork construction. The protocols shall include as a minimum:

- Appropriate site security to prevent unauthorized pedestrian/vehicular entry, such as fencing or other barrier or sufficient height and structural integrity to prevent entry and based upon the degree of control required.
- Posting of "no trespassing" signs.
- Providing on-site meetings with construction workers to inform them about security measures and reporting/contingency procedures.

If groundwater contamination is identified, the Site Health and Safety Plan shall identify protocols for managing groundwater during construction to minimize worker and public exposure to contaminated groundwater. The protocols shall include procedures to prevent unacceptable migration of contamination from defined plumes during dewatering.

The Site Health and Safety Plan shall include a requirement that construction personnel be trained to recognize potential hazards associated with underground features that could contain hazardous substances, previously unidentified contamination, or buried hazardous debris.

The Site Health and Safety Plan shall include procedures for implementing a contingency plan, including appropriate notification and control procedures, in the event unanticipated subsurface hazards are discovered during construction. Control procedures could include, but would not be limited to, investigation and removal of underground storage tanks or other hazards.

Foundation plans and utility plans for the project will be provided to DPH.

Step 3: Handling, Hauling, and Disposal of Contaminated Soils

(a) specific work practices: If, based on the results of the soil tests conducted, DPH determines that the soils on the project site are contaminated at or above potentially hazardous levels, the construction contractor shall be alert to the presence of such soils during excavation and other construction activities on the site (detected through soil odor, color, and texture and results of on-site soil testing), and shall be prepared to handle, profile (i.e. characterize), and dispose of such soils appropriately (i.e., as dictated by local, State, and Federal regulations) when such soils are encountered on the site.

(b) dust suppression: Soils exposed during excavation for site preparation and project construction activities shall be kept moist throughout the time they are exposed, both during and after work hours.

(c) surface water runoff control: Where soils are stockpiled, visqueen shall be used to create an impermeable liner, both beneath and on top of the soils, with a berm to contain any potential surface water runoff from the soil stockpiles during inclement weather.

(d) soils replacement: If necessary, clean fill or other suitable material(s) shall be used to bring portions of the project site, where contaminated soils have been excavated and removed, up to construction grade.

(e) hauling and disposal: Contaminated soils shall be hauled off the project site by waste hauling trucks appropriately certified with the State of California and adequately covered to prevent dispersion of the solids during transit, and shall be disposed of at a permitted hazardous waste disposal facility registered with the State of California.

Step 4: Preparation of Closure/Certification Report

After excavation and foundation construction activities are completed, the project sponsor shall prepare and submit a closure/certification report to DPH for review and approval. The closure/certification report shall include the mitigation measures in the SMP for handling and removing contaminated soils from the project site, whether the construction contractor modified any of these mitigation measures, and how and why the construction contractor modified these mitigation measures.

Mitigation Measure 3 – Archaeological Resources

Based on a reasonable presumption that archaeological resources may be present within the project site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried historical resources. The project sponsor shall retain the services of a qualified archaeological consultant having expertise in urban historical archeology. The archaeological consultant shall undertake an archaeological testing program as specified herein. In addition, the consultant shall be available to conduct an archaeological monitoring and/or data recovery program if required pursuant to this measure. The archaeological consultant's work shall be conducted in accordance with this measure and with the archaeological testing recommendations of the project archaeological resources study (Archaeological Resources Study for 425 First Street, Rincon Hill, San Francisco, Anthropological Studies Center, August 2003) at the direction of the Environmental Review Officer (ERO). The project archaeological resources study is an addendum to the San Francisco-Oakland Bay Bridge, West Approach Replacement: Archaeological Research Design and Treatment Plan (Ziesing 2000). In any instance of inconsistency between the requirements of the project archaeological research design and treatment plan or of the project archaeological resources study and of this archaeological mitigation measure, the requirement of the latter shall prevail. All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Archaeological monitoring and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the ERO, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less than significant level potential effects on a significant archaeological resource as defined in CEQA Guidelines Section 15064.5 (a)(c).

Archaeological Testing Program. The archaeological consultant shall prepare and submit to the ERO for review and approval an archaeological testing plan (ATP). The project ATP shall be consistent with the testing recommendations of the project archaeological resources study (Anthropological Studies Center. August 2003) that identifies distinct testing strategies for four (4) prioritized Archaeologically Sensitive Areas. The archaeological testing program shall be conducted in accordance with the approved ATP. The ATP shall identify the property types of the expected archaeological resource(s) that potentially could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing. The purpose of the archaeological testing program will be to determine to the extent possible the presence or absence of archaeological resources and to identify and to evaluate whether any archaeological resource encountered on the site constitutes an historical resource under CEQA.

At the completion of the archaeological testing program, the archaeological consultant shall submit a written report of the findings to the ERO. If based on the archaeological testing program the archaeological consultant finds that significant archaeological resources may be present, the ERO in consultation with the archaeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional archaeological testing, archaeological monitoring, and/or an archaeological data recovery program. If the ERO determines that a significant archaeological resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor either:

A) The proposed project shall be re-designed so as to avoid any adverse effect on the significant archaeological resource; or
A data recovery program shall be implemented, unless the ERO determines that the archaeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.

Archaeological Monitoring Program. The Archaeological Monitoring Program shall be consistent with the recommendations of the Archaeological Resources Study for 425 First Street, Rincon Hill, San Francisco [One Rincon Hill] (August 2003). Whether or not significant archaeological resources are encountered, the archaeological consultant shall submit a written report of the findings of the monitoring program to the ERO.

Archaeological Data Recovery Program. The Archaeological Data Recovery Program shall be consistent with the San Francisco-Oakland Bay Bridge, West Approach Replacement: Archaeological Research Design and Treatment Plan (Ziesing 2000).

Human Remains and Associated or Unassociated Funerary Objects. The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and Federal laws. This shall include immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (Pub. Res. Code Sec. 5097.98). The archaeological consultant, project sponsor, and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines. Sec. 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects.

Final Archaeological Resources Report. The archaeological consultant shall submit a Draft Final Archaeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archaeological resource and describes the archaeological and historical research methods employed in the archaeological testing/monitoring/data recovery program(s) undertaken. Information that may put at risk any archaeological resource shall be provided in a separate removable insert within the final report.

Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Major Environmental Analysis division of the Planning Department shall receive three copies of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest in or the high interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.

E. ALTERNATIVES

The EIR will analyze alternatives to the project that would reduce or eliminate significant environmental effects. The alternatives will include the following:

1. No Project Alternative. The No Project Alternative is required by CEQA. The existing building complex would remain on the site, as would the existing surface parking lot.
2. Preservation Alternative. This alternative would include adaptive reuse of the existing building complex, including the clock tower. This alternative will be developed, in part, based on the results of the Historic Resource Evaluation for the site.
3. Potential other alternatives. As the impacts analysis for the project proceeds, other alternatives may be identified. For example, the EIR may contain a Planning Code Conforming Alternative that would not require rezoning for height, or a Reduced Development Program Alternative.

F. MANDATORY FINDINGS OF SIGNIFICANCE

	Yes	No	Discussed
1) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or pre-history?	X	___	X
2) Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?		X	
3) Does the project have possible environmental effects which are individually limited, but cumulatively considerable? (Analyze in the light of past projects, other current projects, and probable future projects.)	X		X
4) Would the project cause substantial adverse effects on human beings, either directly or indirectly?		X	

The project site is located in the Rincon Hill Area which is currently experiencing other similar development. The project would demolish a building identified as significant in the Rincon Hill Area Plan of the General Plan, and would contribute to cumulative transportation (traffic and transit), and air quality impacts in the Bay Area. These impacts will be analyzed in the EIR.

G. ON THE BASIS OF THIS INITIAL STUDY:

____ I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared by the Department of City Planning.

____ I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because the mitigation measures, numbers ____, in the discussion have been included as part of the proposed project. A NEGATIVE DECLARATION will be prepared.

_X_ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

DATE: 6-3-04

Joan A Kugler for

PAUL MALTZER
Environmental Review Officer for
GERALD G. GREEN
Director of Planning

B-1. TECHNICAL MEMORANDUM: POTENTIAL WIND CONDITIONS

TECHNICAL MEMORANDUM

TO: Dan Cohen
EDAW
150 Chestnut Street
San Francisco, CA 94111

FROM: Charles Bennett
Environmental Science Associates
225 Bush Street, Suite 1700
San Francisco, CA 94104

DATE: August 12, 2004

SUBJECT: Potential Wind Conditions
Proposed One Rincon Hill Development
San Francisco, California
ESA 203078

I. INTRODUCTION AND OVERVIEW

A wind-tunnel test was performed for the proposed One Rincon Hill residential development project, which would be located at the corner of the full block bounded by First, Harrison, and Fremont Streets and the Bay Bridge approach, in the City of San Francisco. The test was performed in order to define the pedestrian wind environment that would exist around the proposed project. Pedestrian-level wind speeds were measured at selected points for the site as it presently exists, and with the proposed project to quantify resulting pedestrian-level winds in public spaces near the proposed project.

In addition, three cumulative scenarios were tested to investigate the possible conditions that could result from the combination of the project with each of these possible future developments. The three scenarios tested were: 1) the projects currently in the Planning Department's "pipeline" of projects under review; 2) the preferred scenario for the Draft Rincon Hill Plan; and, 3) the Draft Rincon Hill Plan scenario of future development under the 82.5 ft. tower spacing and current height and bulk limits.

Details of the background and test methods are presented in Section II, Background of this memorandum. Test results and discussion are presented in Section III, Study Results, and Section IV summarizes the findings and conclusions. An overview of the test results and conclusions follows.

Summaries of Tests

Test 1: Existing Setting

This setting consists generally of the buildings existing and under construction in the vicinity of the project site. Development in the immediate vicinity is characterized by low and mid-rise structures and scattered high-rise towers. In terms of wind conditions, the more important mid- and high-rise buildings in the area include the 301 First Street towers at the corner of First and Folsom Streets, the generally 80 foot street wall buildings along the east side of First Street between Folsom and Harrison Streets, and the Sailors Union of the Pacific Building across Harrison Street from the site.

The general vicinity of the project site is moderate to windy; the average wind speed for all 26 existing setting test points is 11.2 mph. Wind speeds in pedestrian areas range from 7 to 19 mph. Wind speeds of 14 mph or more occur at 7 of the existing setting locations. The highest wind speeds in the vicinity (18 and 19 mph) occur on the both sides of Harrison Street at First Street. Fourteen of the 26 points currently are at or less than the Planning Code's 11 mph pedestrian-comfort criterion.

The Code's wind hazard criterion of 36 mph is currently exceeded at one of the 26 existing setting test locations. The existing exceedance, with a duration of 2 hours per year, occurs on the south side of Harrison Street, at the bridge that spans Beale Street.

Test 2: Project in the Existing Setting

The project scenario consists of the One Rincon Hill project added to the setting buildings.

With the project, the average wind speed for the 26 existing pedestrian test points would increase by about 1.1 mph to 12.2 mph. Wind speeds in pedestrian areas would range from 7 to 21 mph.

The project would eliminate three existing pedestrian-comfort criterion exceedances – one on First Street immediately adjacent to the project, one at Lansing and First Streets and one on the south side of Harrison Street west of First. The project also would create six new pedestrian-comfort criterion exceedances at existing locations – most along Harrison between the project and Beale Street. The project also would create new pedestrian-comfort criterion exceedances at four of the five new locations on the podium of the project building. A total of 12 of the test points would meet the Planning Code's pedestrian-comfort criterion of 11 mph.

With the project, as compared to existing conditions, wind speeds would increase at 11 locations; remain unchanged at 3 locations, and decrease at 12 locations. Wind speeds of 14 mph or more would occur at 7 of the total 26 existing pedestrian locations. The highest wind speed in the vicinity (21 mph) would occur at the northeast corner of the project site (#19), at the corner of Harrison and Fremont Streets.

With the project in place, the Code's wind hazard criterion would be exceeded at one pedestrian location (#19) at the northeast corner of the project site, for a duration of 17 hours per year[1]. The project would eliminate the one existing hazard exceedance, with a duration of 2 hours per year, on the south side of Harrison Street, at the bridge that spans Beale Street.

In addition to the hazard exceedance in public pedestrian areas, the project would result in two hazard exceedances in the project open spaces on the project podium (#2 – 26 hours per year; #5 – 131 hours per year) and one exceedance on the deck of the Bay Bridge (#7 – 6 hours per year). These three exceedances are not considered relevant to Planning Code Section 249.1(b)(3) analysis since they would not occur in public pedestrian spaces.

<u>Code Exceedances and Potential for Mitigation</u>

Currently, 11 pedestrian-comfort criterion exceedances occur under the existing conditions. In net, the project would add 4 pedestrian-comfort criterion exceedances for a total of 15 pedestrian-comfort criterion exceedances in public areas and 4 more on the project podium open space.

The project would create a new wind hazard exceedance and eliminate an existing wind hazard exceedance. The net effect would be an increase of 15 hours per year in the duration of the hazard.

Given the existing windy conditions of the site and vicinity and the magnitude of changes in wind conditions that can reasonably be expected from the project, it is not believed possible to design any structure that fully meets the goals of the project and which fully reduces ambient wind speeds to meet Section 249.1(b)(3) comfort criteria at all locations in the vicinity of the site.

Wind speeds on the podium of the project would range from 6 mph to 26 mph. Some have speeds sufficiently high to reduce the usability of parts of the podium. Locations #2 is along a major entry route from the First Street stairway. Because wind hazards would occur at locations #2 and #5 during storm or high wind conditions, the concerns would be for personal safety in addition to the utility of that entry at all times of day throughout the year. In general, the winds causing the problem are those that travel down the faces of the towers and strike the podium at the base of the towers. Specific substantial localized on-site mitigation at podium level is warranted and also would be practical and beneficial. Examples of such mitigation include covered walkways built on the podium and/or awnings or setbacks on the towers to deflect the winds that flow down the faces of the towers. Typically, street trees also can provide reductions in wind speed of up to a few miles per hour, but would not be able to eliminate identified exceedances of the comfort or hazard criteria.

Test 3: Project in the Cumulative Development Setting

The project in the cumulative development setting consists of the One Rincon Hill project added to the existing setting buildings. Three cumulative scenarios were tested to investigate the possible conditions that could result from the combination of the project with each of these possible future development scenarios. The three cumulative development scenarios tested were: #1) the projects currently in the Planning Department's "pipeline" of projects under review; #2) the preferred

[1] The Planning Department, for the purposes of the environmental review of a project, has determined that an exceedance of the Code's wind hazard criterion is a significant adverse environmental impact.

scenario for the Draft Rincon Hill Plan; and, #3) the Draft Rincon Hill Plan scenario of future development under the 82.5 ft. tower spacing and current height and bulk limits.

With the cumulative #1 scenario compared to the project, the average wind speed for all test points would increase slightly to 12.3 mph. Wind speeds in pedestrian areas would range from 8 to 20 mph. Eleven of the points would meet the Planning Code's pedestrian-comfort criterion of 11 mph. The cumulative #1 scenario would eliminate four project or existing pedestrian-comfort criterion exceedances and create four new pedestrian-comfort criterion exceedances.

With the cumulative #1 scenario, as compared to project conditions, wind speeds would increase at 15 locations, remain unchanged at 5 locations and decrease at 11 locations. Wind speeds of 14 mph or more would occur at 9 pedestrian locations. The highest wind speeds in the vicinity (20 mph) would at the northeast corner of the project site and also occur in front of the Sailors Union of the Pacific building located at the northeast corner of Harrison and First Streets.

Under the cumulative #1 scenario, the Code's wind hazard criterion would be exceeded at one pedestrian location at the northeast corner of the project site, for a duration of 5 hours per year.

Compared to cumulative #1 scenario, the other cumulative scenarios, #2 and #3 would have small additional benefits for the wind comfort conditions, slightly reducing the average wind speeds and decreasing the number of comfort criterion exceedances by one or two. The effect of the cumulative #1 development scenario on the wind conditions would be beneficial, mitigating most of the hazardous wind conditions due to the project. Each of the three cumulative scenarios would improve the project's wind hazard conditions, with cumulative #3 being the best of the three.

II. BACKGROUND

Tall buildings and structures can strongly affect the wind environment for pedestrians. In cities, groups of structures tend to slow the winds near ground level, due to the friction and drag of the structures themselves. Buildings that are much taller than the surrounding buildings intercept and redirect winds that might otherwise flow overhead, and bring them down the vertical face of the building to ground level, where they create ground-level wind and turbulence. These redirected winds can be relatively strong and also relatively turbulent, and can be incompatible with the intended uses of nearby ground-level spaces.

In the project area, wind conditions are relatively lower than conditions typical of the South of Market area, where wind hazard conditions at a number of pedestrian locations occur.

Existing Climate and Wind Conditions

Average winds speeds in San Francisco are the highest in the summer and lowest in winter. However, the strongest peak winds occur in winter. The highest average wind speeds occur in mid-afternoon and the lowest in the early morning. Westerly to northwesterly winds are the most frequent and strongest winds during all seasons. Of the 16 primary wind directions, four have the greatest frequency of occurrence and subsequently make up the majority of the strong winds that occur. These winds include the northwest, west-northwest, west, and west-southwest winds.

Data describing the speed, direction, and frequency of occurrence of winds were gathered at the old San Francisco Federal Building at 50 United Nations Plaza (at a height of 132 ft.) during the six-year period, 1945 to 1950. Measurements taken hourly and averaged over one-minute periods have been tabulated for each month (averaged over the six years) in three-hour periods using seven classes of wind speed and 16 compass directions. Analysis of these data shows that during the hours from 6:00 a.m. to 8:00 p.m., about 70% of all winds blow from five of the 16 directions as follows: Northwest (NW), 10%; West-Northwest (WNW), 14%; West (W), 35%; West-Southwest (WSW), 2%; Southwest (SW), 9%; and all other winds, 28%. Calm conditions occur 2% of the time. More than 90% of measured winds over 13 mph blow from these directions.

Wind Speed and Pedestrian Comfort[2]

The comfort of pedestrians varies under different conditions of sun exposure, temperature, clothing, and wind speed. Winds up to four miles per hour (mph) have no noticeable effect on pedestrian comfort. With speeds from four to eight mph, wind is felt on the face. Winds from eight to thirteen mph will disturb hair, cause clothing to flap, and extend a light flag mounted on a pole. Winds from 13 to 19 mph will raise loose paper, dust, and dry soil, and will disarrange hair. For winds from 19 to 26 mph, the force of the wind will be felt on the body. With 26 to 34 mph winds, umbrellas are used with difficulty, hair is blown straight, there is difficulty in walking steadily, and wind noise is unpleasant. Winds over 34 mph increase difficulty with balance and gusts can blow people over.

City Planning Code Requirements

[2] Lawson, T.V. and A.D. Penwarden, "The Effects of Wind on People in the Vicinity of Buildings," Proceedings of the Fourth International Conference on Wind Effects on Buildings and Structures, London, 1975, Cambridge University Press, Cambridge, U.K., 605-622 1976.

This project is located in an area that is subject to the City Planning Code Section 249.1(b)(3), Reduction of Ground-Level Wind Currents in the Rincon Hill Special Use District. The City Planning Code specifically outlines these wind reduction criteria for the Rincon Hill Special Use District. This analysis is performed using the wind testing analysis and evaluation methods to determine conformity with the Code. These requirements are described in Planning Code Section 249.1(b)(3), a copy of which is attached to this Memorandum. A copy of Planning Code Section 148 is also attached to this Memorandum because the basis for implementation of Section 249.1(b)(3) is based on Section 148.

The Planning Code requires buildings to be shaped so as not to cause ground-level wind currents to exceed defined comfort and hazard criteria. The comfort criteria are that wind speeds will not exceed, more than 10% of the time, 11 mph in substantial pedestrian use areas, and 7 mph in public seating areas. Similarly, the hazard criterion of the Code requires that buildings not cause equivalent wind speeds to reach or exceed the hazard level of 26 mph as averaged for a single full hour of the year. These comfort criteria are based on wind speeds that are measured for one minute and averaged. In contrast, the hazard criterion is based on winds that are measured for one hour and averaged; when stated on the same basis as the comfort criteria winds, the hazard criterion speed is a one-minute average of 36 mph[3], to distinguish between the wind comfort conditions and hazardous winds. The Planning Code defines these wind speeds in terms of equivalent wind speeds[4], an average wind speed (mean velocity), adjusted to include the level of gustiness and turbulenee.

<u>Model and Wind Testing Protocols</u>

A 1-inch to 50-foot scale model of the project site and surrounding several blocks was constructed in order to simulate the project and its existing and future contexts. The scale model of the project and surrounding area was provided by ESA. The Project design was configured from plans provided by the project architects. The test model was constructed by ESA. The scale models were then tested in a boundary layer wind-tunnel facility at the University of California, Davis, under the direction of Dr. Bruce White. These tests, however, were performed independent of the University.

Wind-tunnel tests of the project were conducted for five configurations: the Existing Setting, and the Project in the Existing Setting and the Project in each of there Cumulative Development Settings. In accordance with the protocol for wind-tunnel testing in Section 148 of the Planning Code, each configuration was wind-tunnel tested for each of four primary wind directions: northwest (NW), west-northwest (WNW), west (W) and southwest (SW).

The test procedure consisted of orienting the selected configuration of the model in the atmospheric boundary layer wind-tunnel and measuring the wind speed at each of the test locations with a hot-wire anemometer. All hot-wire measurements were taken at the same series of surface points around the project site for all test configurations and wind directions.

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[3] Arens, E., "Designing for Acceptable Wind Environment," Transactions Engineering Journal, ASCE 107, No. TE2, p.127-141, 1981.

[4] Equivalent mean wind speed is defined as the mean wind, multiplied by the quantity (one plus three times the turbulence intensity) divided by 1.45.

The wind tunnel allows testing of natural atmospheric boundary layer flow past surface objects such as buildings and other structures. The tunnel has an overall length of 22 meters (m) (72 feet), a test section of 1.22 m (4 feet) wide by 1.83 m (6 feet) high, and an adjustable false ceiling. The adjustable ceiling and turbulence generators allow speeds within the tunnel to vary from 1 meter per second (m/s) to 8 m/s, or 2.2 mph to 17.9 mph.

Wind-speed measurements at each test location were made with a hot-wire anemometer, an instrument that directly relates rates of heat transfer to wind speeds by electronic signals that are proportional to the magnitude and steadiness of the wind. The hot-wire probe was calibrated to an accuracy of within 2% before the test procedure was begun. The hot-wire probe measured the analog voltage for approximately 30 seconds at each test location. When converted to digital signals, this measurement provided approximately 30,000 individual voltage samples that were averaged and the root mean square calculated for each test location. These data, when converted to velocity using the calibration curves, provided the mean velocity and turbulence values used to calculate the equivalent wind speed.

By measuring both the mean wind speeds and corresponding turbulence intensities, high wind speeds and gustiness (changes in wind speeds over short periods of time) could be determined. The ratio of near-surface speed to reference wind speed was calculated from the hot-wire measurements. The inherent uncertainty of measurements made with the hot-wire anemometer close to the surface of the model is ±5% of the true values.

These values were compared with the free stream wind as measured in the wind-tunnel. As a result, each wind-tunnel measurement resulted in a ratio that relates the speed of ground-level wind to the speed at the reference elevation, in this case the height of the Old San Francisco Federal Building. These ratios were the output data from the wind-tunnel tests.

These output data were reduced using a computer program that evaluated the contribution from each tested wind direction to the total wind speed output ratios to account for the differences between the boundary layer profile in the wind-tunnel and the profile as measured at the Old Federal Building located at 50 United Nations Plaza. The program then computed the equivalent wind speed that conforms to the selected criterion; either the wind speed exceeded 10% of the time or the wind speed exceeded one hour or more per year. The program also computed the percentage of time that the wind would exceed the speed criterion selected, and further computed the percentage contribution of each wind direction to the equivalent wind speed and to the excess of the criterion. In addition to the computations for each tested wind direction, the program computed an average ratio and used this to compute statistics for "Other" winds, which accounted for all remaining wind directions.

The output of the computer program is presented in the Wind-Tunnel Test Results tables for normal winds and for hazardous winds. These tables, appended to this Memorandum, provide the detail of the data and of the intermediate results that are described above. The wind tunnel ratios were included in the program input, and the results evaluated in the discussions that follow.

The program first adjusted the wind-tunnel output ratios to account for the differences between the boundary layer profile in the wind-tunnel and the profile as measured at the Old Federal Building located at 50 United Nations Plaza. The program then computed the equivalent wind speed that conforms to the selected criterion; either the wind speed exceeded 10% of the time or the wind speed exceeded one hour or more per year. The program also computed the percentage of time that the wind would exceed the speed criterion selected, and further computed the percentage contribution of each wind direction to the equivalent wind speed and to the excess of the criterion. In addition to the computations for each tested wind direction, the program computed an average ratio and used this to compute statistics for "Other" winds, which accounted for all remaining wind directions.

The output of the computer program is presented in the Wind-Tunnel Test Results tables for normal winds and for hazardous winds. These tables, appended to this Memorandum, provide the detail of the data and of the intermediate results that are described above. The wind tunnel ratios were included in the program input, and the results evaluated in the discussions that follow.

Wind Speed Profile Adjustments

The standard Section 148 wind test methodology implicitly assumes that the relationship between height above the ground and wind speed (referred to hereafter as the wind speed profile) is the same in the test area as at the Civic Center weather station. Wind speed adjustments were not made for this wind test. Because adjustments would have only produced lower wind speeds than those reported in this Memorandum, therefore, the results shown provide a more conservative estimate of wind conditions in the area.

III. TEST CASES AND STUDY RESULTS

Introduction

Wind-tunnel tests were conducted for the existing, the project, and the cumulative test scenarios; thirty-two locations were studied, including 26 pedestrian locations, 5 locations on the project's podium, and one on the deck of the Bay Bridge. Each scenario was tested for the four prevailing wind directions: northwest, west-northwest, west, and southwest. These winds are the most common in San Francisco and are therefore the most representative for evaluation of the proposed project. Existing street trees are found along some of the sidewalks in the vicinity, but the wind-tunnel testing did not account for those trees, so the existing wind speeds and the wind speed changes attributed to the project could differ somewhat from those reported here.

Test Locations[5]

The 26 pedestrian test locations surround the project block on the sidewalks of First, Harrison, Folsom, Fremont and Beale Streets, while another 5 locations (#2-6) are placed on the podium of the project building and one (#7) on the deck of the Bay Bridge (see Figure 1). The pedestrian test locations along Harrison, First and Fremont Streets, upwind and downwind of the site, helped facilitate comparison of this wind-tunnel test with prior wind-tunnel tests. The locations of interest for the Planning Code are those with public access for pedestrians. Thus, location #7 is not relevant to that analysis because it is on a roadway inaccessible to pedestrians.

A total of five test points (#1, 8, 18-20) were located immediately around the project site. Another five points (#2-6) on the podium of the project, in the project open space, were tested for the project and the three cumulative scenarios.

Along Harrison Street between Main and First Streets were thirteen locations (#8-10, 16-19, 61-65, 71). Six points (#10, 17, 61, 62, 64, 71) were positioned on the north side of Harrison Street with the remaining seven points (#8, 9, 16, 18, 19, 63, 65) on the south side of the street.

Along First Street from First Street to Folsom Street were nine measurement locations (#8-15, 71). Four of the locations (#8, 12, 15, 71) were on the east side of First and five (9-11, 13, 14) were on the west side.

Along Fremont Street between Folsom and Harrison Streets were eight test locations (#19, 61-63, 70, 75, 76, 81). Four points (#62, 63, 70, 75) were located on the east side of Fremont Street and four (#19, 61, 76, 81) along the west side of the street.

Along Folsom Street between First and Beale Streets were five test locations (#14, 15, 74-76). All five locations were located on the south side of Folsom Street.

Along Beale Street between Folsom and Harrison Streets were three test locations (#64, 65, 74), all three located along the west side of the street.

Note that in describing wind conditions, some points were referred to in more than one group. For the purpose of identifying the applicable wind comfort criterion of the Code, all but one of the test locations

[5] The location numbers were arbitrarily assigned, and thus hold no significance to the analysis of wind results.

were considered to be pedestrian, rather than sitting areas. The exception was one point (#7) located on the deck of the Bay Bridge.

Wind Evaluation and Criteria

Just as the wind-tunnel testing was performed in accordance with the test protocols of City Planning Code Section 249.1(3), the performance requirements of Code Section 249.1(3) were used to evaluate the results of the tests. The mean wind speeds were compared to the Code's comfort criteria of 11 mph for areas of substantial pedestrian use and 7 mph for seating areas, each not to be exceeded more than 10% of the time. Separate calculations evaluated compliance with the hazard criterion. As previously noted, the wind data observed at the Old San Francisco Federal Building were not full hour average speeds as identified by the Code, so it is necessary to adjust the wind criterion speed to obtain a valid comparison with the available data and the equivalent wind speeds based on those data. When normalized to the equivalent wind speeds used here, the hazard criterion speed is equal to 36 mph, the value used in the tables. Throughout the following discussion the wind speeds reported refer to the equivalent wind speeds that would be exceeded 10% of the time when referring to the comfort criteria, and about 0.011416% of the time when referring to the hazard criterion.

Test Output

The basic wind-tunnel test data and the detailed outputs of the computer program were presented in tables of comfort criteria and hazard criteria evaluations for each of the scenarios, Existing, Project and Cumulative. These output tables, appended to this Memorandum, provide the detail of the data and the intermediate results described above. The wind-tunnel ratios and the wind profile adjustment factors for each wind direction were included. The results were evaluated in the discussions that follow.

Figure 1 identifies the measurement point locations. Summary information about the wind-tunnel test results and evaluations of compliance with the comfort and hazard criteria were presented for the Existing and Project scenarios in summary Tables 1 and 2. Table 1 presents the Pedestrian-Comfort Analysis results, namely the measured 10% exceeded speed and the percentage of time that the comfort criterion is exceeded for each test location and test scenario. Table 2 presents the Wind Hazard Analyses results, the equivalent wind speed and the number of hours per year of exceedance of the hazard criterion for each test location and test scenario.

Throughout the following discussion, references are made to values from these Tables. Note that the times in hours and wind speeds in mph presented in those tables were rounded to the nearest integer value. The sums, differences and averages presented also were rounded after calculations that were made using the actual (unrounded) values. As a result, what may appear to be discrepancies in the tabular results, such as sums for each of the columns or differences between values for project and existing conditions, are simply due to the rounding of results. However, the rounded values of the differences in wind speeds and in hours exceedances in the Tables best represent the measured changes in those quantities.

Discussion

Throughout the following discussion the wind speeds reported refer to the equivalent wind speeds that would be exceeded 10% of the time when referring to the Pedestrian-Comfort Criterion, and winds exceeded 1 hour per year when referring to the Wind Hazard Criterion.

Figure 1
Wind Test Point Locations

TEST 1 - THE EXISTING WIND ENVIRONMENT

The Existing Setting

This setting consists generally of the existing buildings in the vicinity of the project site. Development in the immediate vicinity is characterized by low and mid-rise structures and scattered high-rise towers. In determining wind conditions, the more important mid- and high-rise buildings in the area include the 301 First Street towers at the corner of First and Folsom Streets, and the generally 80 foot street wall buildings along the east side of First Street between Folsom and Harrison Streets, including the Sailors Union of the Pacific Building across Harrison Street from the site. Other buildings in the existing setting include the approved, but yet unbuilt, buildings at 40/50 Lansing Street, 325 Fremont Street, 201 Folsom Street and 300 Spear Street.

Existing Comfort Criterion Conditions

The general vicinity of the project site is moderate to windy; the average wind speed for all 26 existing pedestrian test points is 11.2 mph. Wind speeds in pedestrian areas range from 7 to 19 mph. Wind speeds of 14 mph or more occur at 7 of the total 26 locations. The highest wind speeds in the vicinity (18 and 19 mph) occur on both sides of Harrison Street at First Street (#18, 71). Fourteen of the 26 points (#11, 14, 15, 17, 19, 61-64, 70, 74-75, 81, 82) currently are at or less than the Planning Code's 11 mph pedestrian-comfort criterion. See Figure 1 and Table 1.

At the five test points (#1, 8, 18-20) immediately surrounding the project site, wind speeds range from 9 to 18 mph. Speeds at all but one (#19) exceed the pedestrian comfort criterion. No measurements could be made for the existing setting scenario at the six points (#2-6) on the proposed building podium.

Wind speeds range from 6 mph to 15 mph at the thirteen locations (#8-10, 16-19, 61-65, 71) along Harrison Street between Main and First Streets. The highest wind speeds (18-19 mph) occur on both sides of Harrison Street at the First Street on-ramp (#18-19) to the Bay Bridge approach. Winds at 6 of these 13 locations (#17, 19, 61-64) are at or less than the pedestrian-comfort criterion.

Along First Street from Harrison Street to Folsom Street, wind speeds at the nine measurement locations (#8-15, 71) range from 9 to 15 mph. Winds at three of the nine locations (#11, 14-15) are at or less than the pedestrian-comfort criterion.

Along Fremont Street between Folsom and Harrison Streets wind speeds at the eight test locations (#19, 61-63, 70, 75, 76, 81) range from 7 to 13 mph. Wind speeds at seven of the eight (#19, 61-63, 70, 75, 81) are at or less than the pedestrian-comfort criterion.

Winds at the five test locations (#14, 15, 74-76) along Folsom Street range from 8 mph to 13 mph; the lowest speed, 8 mph, occurs at the southeast corner of Folsom Street and Fremont Street (#75). Four of the five Folsom Street locations (#14, 15, 74-75) are at or less than the pedestrian-comfort criterion.

Wind speeds at the three test locations (#64, 65, 74) along the west side of Beale Street between Folsom Street and the Bridge range from 7 mph to 15 mph. Two (#64, 74) of the Beale Street locations are at or less than the pedestrian-comfort criterion.

Existing Hazard Conditions

The Code's wind hazard criterion is currently exceeded at one of the existing 26 existing pedestrian test locations. See Table 2. The existing exceedance, with a duration of 2 hours per year, occurs on the south side of Harrison Street, at the bridge that spans Beale Street (#65).

Table 1 Wind Comfort Analysis – Existing, Project and Cumulative Conditions
Proposed One Rincon Hill Project Wind-Tunnel Test, July 2004

References		Existing Setting			Project				Cumulative 1				Cumulative 2				Cumulative 3			
Location Number	Comfort Criterion Speed (mph)	Measured Equivalent Wind Speed (mph)	Percent of Time Wind Speed Exceeds Criterion	exceeds	Measured Equivalent Wind Speed (mph)	Percent of Time Wind Speed Exceeds Criterion	Speed Change Relative to Existing (mph)	exceeds	Measured Equivalent Wind Speed (mph)	Percent of Time Wind Speed Exceeds Criterion	Speed Change Relative to Project (mph)	exceeds	Measured Equivalent Wind Speed (mph)	Percent of Time Wind Speed Exceeds Criterion	Speed Change Relative to Project (mph)	exceeds	Measured Equivalent Wind Speed (mph)	Percent of Time Wind Speed Exceeds Criterion	Speed Change Relative to Project (mph)	exceeds
1	11	12	14	e	10	6	-2	-	12	14	2	s	10	6			12	16	2	s
2	11				23	49		n	21	45	-2	p	20	47	-3	p	20	43	-3	p
3	11				6	0			8	1	2		5	0	-1		6	0	1	
4	11				13	18		n	13	17		p	13	16		p	13	16		p
5	11				26	47		n	18	29	-8	p	17	25	-9	p	9	5	-17	-
6	11				16	28		n	15	25	-1	p	14	24	-2	p	15	24	-1	p
7	11	14	20	e	20	40	6	e	19	35	-1	e	19	33	-1	e	17	28	-3	e
8	11	12	12	e	12	12		e	13	17	1	e	12	13		e	15	25	3	e
9	11	14	22	e	12	16	-2	e	14	23	2	e	13	17	1	e	17	33	4	e
10	11	14	23	e	12	15	-2	e	14	25	2	e	8	2	-5	-	11	11	-1	-
11	11	9	3		11	10	2		10	6	-1		13	21	2	s	14	23	3	s
12	11	16	28	e	14	20	-2	e	15	24	1	e	15	24	1	e	12	13	-2	e
13	11	12	12	e	11	10	-1	-	12	12	1	s	10	6	-1		9	2	-2	
14	11	8	1		9	2	1		9	2			8	2			8	1	-1	
15	11	9	2		9	4	1		10	4			9	4			9	2	-1	
16	11	12	14	e	10	6	-2	-	18	35	7	s	17	34	7	s	17	34	6	s
17	11	10	5		9	3	-1		14	22	5	s	11	12	2		14	21	5	s
18	11	18	29	e	12	13	-5	e	12	13		e	12	13		e	12	13		e
19	11	9	3		21	43	12	s	20	42	-1	p	19	39	-2	p	17	34	-5	p
20	11	15	26	e	13	18	-3	e	14	21	1	e	13	19		e	12	14	-1	e
61	11	8	2		15	22	7	s	10	6	-5	-	13	15	-2	p	11	11	-3	-
62	11	8	2		15	25	7	s	16	30	1	p	14	23	-1	p	12	14	-3	p
63	11	8	1		17	25	9	s	10	7	-7	-	9	2	-8	-	14	19	-3	p
64	11	7	1		7	1			8	2	1		7	1	1		9	2	2	
65	11	15	24	e	17	28	2	e	12	16	-5	e	12	13	-5	e	10	6	-7	-
70	11	9	4		8	3	-1		9	3	1		10	8	2		9	2	1	
71	11	19	35	e	17	32	-1	e	20	40	3	e	18	33		e	17	31	-1	e
74	11	11	10		12	12	1	s	12	14	1	p	13	16	1	p	13	17	1	p
75	11	9	3		9	3			8	1			8	2	-1		9	3		
76	11	12	14	e	12	12	-1	e	10	5	-2	-	11	11		-	11	8	-1	-
81	11	8	3		10	4	1		8	4	-1		11	9	1		8	2	-1	
82	11	7	0		13	17	5	s	11	9	-2	-	10	6	-3	-	12	12	-1	p
Average mph and %		11.2 mph	12%		12.2 mph	14%	1.1 mph		12.3 mph	15%	0.2 mph		11.9 mph	14%	-1.1 mph		12 mph	14%	-0.3 mph	

Exceedances: Counts:	Existing Setting			Project			Cumulative 1			Cumulative 2			Cumulative 3		
	Total	12		Total	20		Total	20		Total	18		Total	19	
	Existing	12	e	Existing	10	e	Existing or Project	16		Existing or Project	16		Existing or Project	15	
				New, due to scenario	6	s	New, due to scenario	4	s	New, due to scenario	2	s	New, due to scenario	4	s
				New, at new location	4	n	New, at new location	0	n	New, at new location	0	n	New, at new location	0	n
				Eliminated	3	-	Eliminated	4	-	Eliminated	4	-	Eliminated	5	-

NOTE: On-site points #2-6 and bridge deck location #7 are excluded from averages and percentages calculations, but included in counts of criterion exceedance.

Note: Wind speeds and durations are rounded, so column totals and row differences may not add. See Section II, Test Output.

Table 2 Wind Hazard Analysis - Existing, Project and Cumulative Conditions
Proposed One Rincon Hill Project, Wind-Tunnel Test, July 2004

References		Existing Setting			Project				Cumulative 1				Cumulative 2				Cumulative 3			
Location Number	Hazard Criterion Speed (mph)	Measured Equivalent Wind Speed (mph)	Hours per year Wind Speed Exceeds Hazard Criterion	exceeds	Measured Equivalent Wind Speed (mph)	Hours per year Wind Speed Exceeds Hazard Criterion	Hours Change Relative to Existing Setting	exceeds	Measured Equivalent Wind Speed (mph)	Hours per year Wind Speed Exceeds Hazard Criterion	Hours Change Relative to Project	exceeds	Measured Equivalent Wind Speed (mph)	Hours per year Wind Speed Exceeds Hazard Criterion	Hours Change Relative to Project	exceeds	Measured Equivalent Wind Speed (mph)	Hours per year Wind Speed Exceeds Hazard Criterion	Hours Change Relative to Project	exceeds
1	36	20			20				21				20				23			
2	36				44	26		n	43	4	-22	p	46	7	-19	p	35		-26	
3	36				16				18				13				19			
4	36				22				23				24				22			
5	36				50	131		n	35		-131		33		-131		30		-131	
6	36				34				32				31				31			
7	36	30			46	6	6	s	45	6		p	45	5	-1	p	44	5	-2	p
8	36	25			22				26				24				30			
9	36	24			22				28				24				32			
10	36	26			21				33				23				30			
11	36	24			25				30				36	1	1	s	36	1	1	s
12	36	29			25				27				26				23			
13	36	21			19				21				18				15			
14	36	13			15				16				15				14			
15	36	16			20				22				20				20			
16	36	21			18				34				31				33			
17	36	23			19				35				22				30			
18	36	33			23				23				28				28			
19	36	16			43	17	17	s	43	5	-12	p	41	3	-13	p	33		-17	
20	36	27			27				25				25				26			
61	36	23			31				30				29				28			
62	36	22			28				30				36	1	1	s	27			
63	36	20			32				21				16				27			
64	36	14			15				16				16				16			
65	36	38	2	o	33		-2		33				24				25			
70	36	20			18				17				22				15			
71	36	34			31				36				30				29			
74	36	19			21				22				23				27			
75	36	16			16				14				19				17			
76	36	22			20				17				20				22			
81	36	19			17								21				16			
82	36	13			13								20				22			
Average mph and %		22 mph	2 hr		23 mph	17 hr	15 hr		26 mph	5 hr	-12 hr		24 mph	5 hr	-11 hr		25 mph	1 hr	-16 hr	

Exceedances:	Existing Setting			Project			Cumulative 1			Cumulative 2			Cumulative 3		
	Total	1		Total	4		Total	3		Total	5		Total	2	
Counts:	Existing	1	o	Existing	0	o	Existing or Project	3	P	Existing or Project	3		Existing or Project	1	
				New, due to scenario	2	s	New, due to scenario	0	s	New, due to scenario	2	s	New, due to scenario	1	s
				New, at new location	2	n	New, at new location	0	n	New, at new location	0	n	New, at new location	0	n
				Eliminated	0	-	Eliminated	0	-	Eliminated	0	-	Eliminated	0	-

NOTE: On-site points #2-6 and bridge deck location #7 are excluded from averages and percentages calculations, but included in counts of criterion exceedance.

Note: Wind speeds and durations are rounded, so column totals and row differences may not add. See Section II, <u>Test Output</u>. A hazard criterion exceedance is shown by an entry of the number of hours per year that the hazard criterion is exceeded.

TEST 2 - PROJECT WIND IMPACTS

Project in the Existing Setting

The project setting consists of the One Rincon Hill project, developed from plans[6] provided by the project architects, that was added to the existing setting that was described under Test 1. The project is located on the south side of Harrison Street, between First and Fremont Streets.

Comfort Criterion Conditions

With the project, the average wind speed for the 26 existing test points would increase by about 1.1 mph to an average of 12.2 mph. Wind speeds in these pedestrian areas would range from 7 to 21 mph. The project would add six new exceedances at the existing test locations (#19, 61-63, 74, 82) and would eliminate three existing pedestrian-comfort criterion exceedances (#1, 13, 16). Winds at four of the five new locations on the project podium would be in excess of the Planning Code's 11 mph pedestrian-comfort criterion. Overall, wind speeds at 12 of the points (#1, 3, 11, 13-17, 20, 64, 70, 75, 81) would be at or less than the Planning Code's pedestrian-comfort criterion value of 11 mph. See Figure 1 and Table 1.

With the project, as compared to conditions at the existing locations, wind speeds would increase at 11 locations; remain unchanged at 3 locations; and decrease at 12 locations. Wind speeds of 14 mph or more would occur at 7 of the total 26 existing locations. The highest wind speed in the vicinity (21 mph) would occur at the northeast corner of the project site, at Harrison and Fremont Streets (#19).

With the project, consequential wind speed decreases of 2 to 5 mph would occur at seven locations (#1, 9, 10, 12, 16, 18, 20) immediately upwind of the proposed building, at and south of the intersection of First and Harrison Streets, while larger magnitude wind speed increases of 2 to 12 mph would occur at eight locations (#7, 11, 19, 61-63, 65, 82) immediately downwind of the project, at and adjacent to the intersection of Fremont and Harrison Streets. The decreases would eliminate three existing exceedances, while these increases would add six new exceedances of the pedestrian comfort criterion at existing locations and four new exceedances of the pedestrian comfort criterion at new locations.

At the five test points (#1, 8, 18-20) immediately surrounding the project site, wind speeds would range from 10 to 21 mph. Speeds at one (#1) would be at or less than the pedestrian comfort criterion. At the six points (#2-6) on the proposed building podium, wind speeds would range from 6 mph to 26 mph. One of these six locations (#3) would be at or less than the 11 mph pedestrian-comfort criterion.

Wind speeds would range from 7 mph to 21 mph at the thirteen locations (#8-10, 16-19, 61-65, 71) along Harrison Street between Main and First Streets. The highest wind speed (21 mph) would occur at the northeast corner of the project, on the south side of Harrison Street at the Harrison Street off-ramp (#19). This is an increase of 12 mph over the existing wind speed at this location. However, it is accompanied by a 5 mph decrease in wind speed at the mid-block location (#18), so the net effect is to increase and shift eastward this existing high wind condition. Wind speeds at only one (#64) of the thirteen locations would be

[6] SCB & Associates, Inc., concept plans, dated April 2, 2004. The two towers have roof heights of 550 ft and 450 ft., with 42 ft. high mechanical penthouses that bring the top parapet elevations to nearly 707 ft and 590 ft., respectively.

at or less than the 11 mph pedestrian-comfort criterion. This would be five fewer than under existing conditions.

Along First Street from First Street to Folsom Street, wind speeds at the nine measurement locations (#8-15, 71) would range from 9 to 16 mph. Winds at five of the nine locations (#8. 11, 13-15) would be at or less than the pedestrian-comfort criterion, one more than under existing conditions.

Along Fremont Street between Folsom and Harrison Streets wind speeds at the eight test locations (#19, 61-63, 70, 75, 76, 81) would range from 7 to 21 mph with the project. Wind speeds at three of the eight (#70, 75, 81) would be at or less than the pedestrian-comfort criterion, five fewer than under existing conditions.

Winds at the five test locations (#14, 15, 74-76) along Folsom Street would range from 9 mph to 12 mph with the project in place. Wind speeds at three (#14, 15, 75) of the five Folsom Street locations would be at or less than the pedestrian-comfort criterion, one more location than under existing conditions.

With the project, wind speeds at the three test locations (#64, 65, 74) on the west side of Beale Street between Folsom Street and the Bridge would range from 7 mph to 17 mph. With the project, one (#64) location would be at or less than the pedestrian-comfort criterion, one fewer than under existing conditions.

Project Hazard Conditions

With the project in place, the Code's wind hazard criterion would be exceeded at one pedestrian location (#19) at the northeast corner of the project site. The exceedance would occur for a duration of 17 hours per year. The project would eliminate the existing hazard exceedance, with a duration of 2 hours per year, on the south side of Harrison Street, at the bridge that spans Beale Street (#65).

In addition to the hazard exceedance in public pedestrian areas, the project would result in two hazard exceedances in the project open spaces on the project podium (#2 – 26 hours per year; #5 – 131 hours per year) and one exceedance on the deck of the Bay Bridge (#7 – 6 hours per year). These three exceedances are not considered relevant to Section 249.1(b)(3) analysis since they do not occur in public pedestrian spaces. See Table 2.

<u>Code Exceedances and Potential for Mitigation</u>

Discussion

Under Section 249.1(b)(3) of the City Planning Code, new buildings and additions to buildings may not cause ground-level winds to exceed the wind comfort criteria values more than ten percent of the time year round between 7:00 a.m. and 6:00 p.m. If existing wind speeds exceed the comfort level, new buildings and additions must be designed to reduce ambient wind speeds to meet the requirements. Section 249.1(b)(3) also establishes a hazard criterion, which, as adjusted, is a 36 mph hourly-average equivalent wind speed for a single full hour. Buildings may not cause winds that meet or exceed this criterion. See Appendix.

The siting of a large structure is expected to change wind flows, speeding up the wind at some locations and slowing it elsewhere in the vicinity. Even a moderate-size structure placed on this site can be expected to result in changes in the durations of criterion exceedances and changes in the locations at which those criterion exceedances occur. Experience indicates that for buildings in such windy areas it is common for new buildings to eliminate some existing exceedances and create others. In practice it is not always possible to mitigate such remaining exceedances (as required by the language of the Planning Code).

In this case, 11 pedestrian-comfort criterion exceedances occur under the existing conditions. In net, the project would add 8 pedestrian-comfort criterion exceedances for a total of 19 pedestrian-comfort criterion exceedances.

The project would create one new wind hazard criterion exceedance, with a duration of 2 hours per year, on the south side of Harrison Street, at the bridge that spans Beale Street.

Given the existing windy conditions of the site and vicinity and the magnitude of changes in wind conditions that can reasonably be expected, it may not be possible to design any structure that fully meets the goals of the project and which would fully reduce ambient wind speeds to meet Section 249.1(3) comfort criteria at all locations in the vicinity of the site.

Potential for Mitigation

The largest change in wind speed due to the project (#19), an increase of 12 mph, would occur at the northeast corner of the project site, with wind speeds of 21 mph, well in excess of the pedestrian-comfort criterion. The southern sidewalk of Harrison is likely not considered an important pedestrian way, since it is intersected by the Harrison Street off-ramp and the First Street on-ramps of the Bay Bridge, so the importance of this comfort exceedance is diminished.

Wind speeds on the podium of the project would range from 6 mph to 26 mph. Some have speeds sufficiently high to reduce the usability of parts of the podium. Locations #2 is along a major entry route from the First Street stairway. Because wind hazards would occur at locations #2 and #5 during storm or high wind conditions, the concerns would be for personal safety in addition to the utility of that entry at all times of day throughout the year. In general, the winds causing the problem are those that travel down the faces of the towers and strike the podium at the base of the towers. Specific substantial localized on-site mitigation at podium level is warranted and also would be practical and beneficial. Examples of such mitigation include covered walkways built on the podium and/or awnings or setbacks on the towers to deflect the winds that flow down the faces of the towers. Street trees also can provide some reductions of up to a few miles per hour in wind speed on sidewalks, but would not be able to eliminate identified individual exceedances of the comfort or hazard criteria.

Comments

It should not be assumed that just reducing the size of the project, or changing the design of the project, or the planting of large street trees in front of the project would effectively reduce wind speeds in the vicinity enough to eliminate all of the existing or project pedestrian-comfort criterion exceedances.

TEST 3 – THE PROJECT IN THE CUMULATIVE SETTING

The Cumulative Setting

The Project was tested in three separate cumulative settings. In addition to the existing buildings, approved buildings also were included. Where the buildings were part of the Draft Rincon Hill Plan but no submitted project (pipeline) design was available, the height and bulk constraints of the Plan were used to develop building masses up to 85 ft. high and towers that met the Plan alternative's tower spacing and setback requirements.

The components of the three cumulative settings tested were as follows:

Cumulative #1 – Potential future buildings currently in the Planning Department's "pipeline" of projects under review (See Figure 2)

333 Fremont, case 2002.1263E;
340/350 Fremont, case 2004.0553E
375 Fremont, case 2002.0449E;
399 Fremont, case 2003.0169E;
45 Lansing, case 2004.0481E.

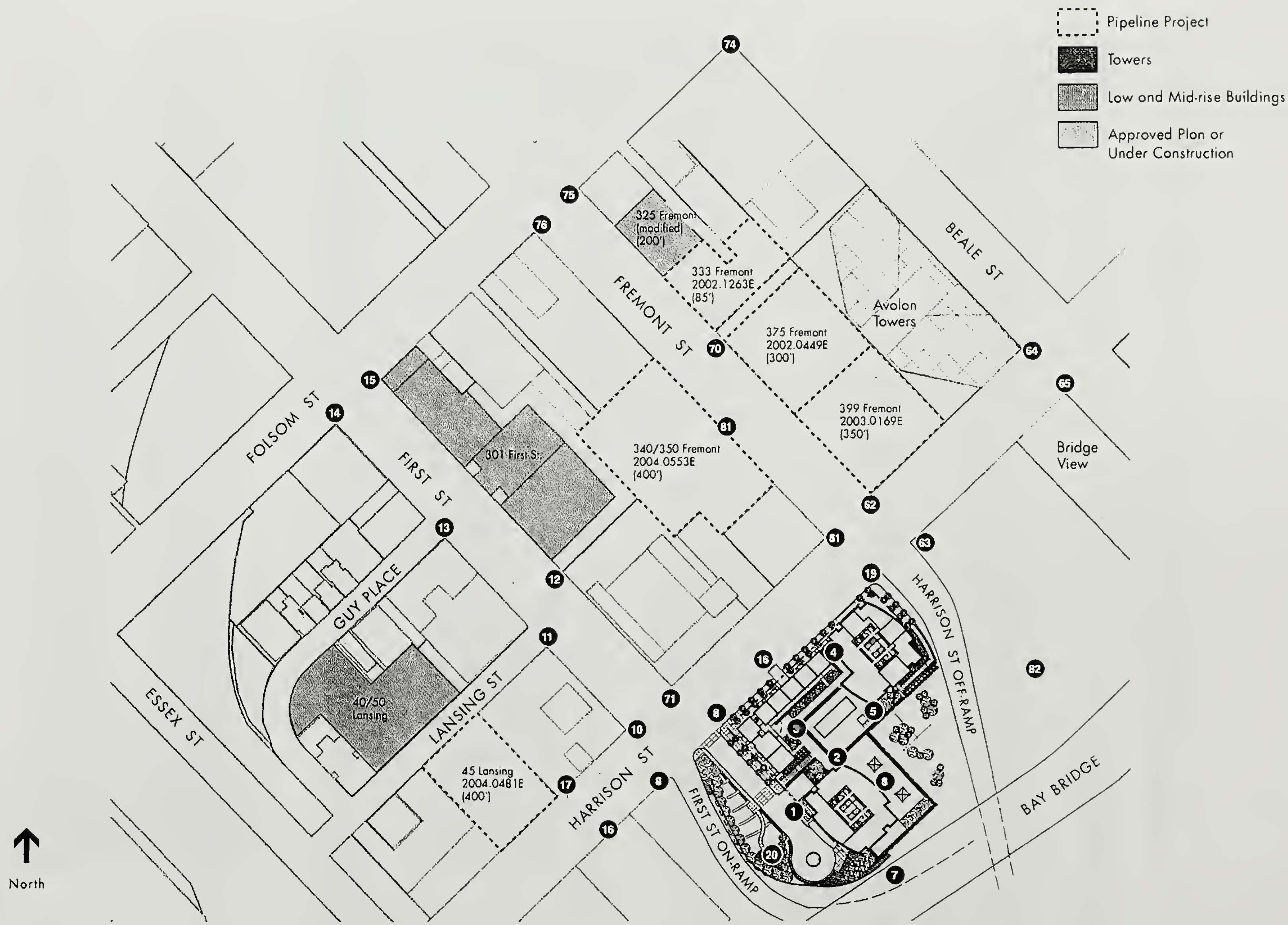
Cumulative #2 – The Preferred Option for the Draft Rincon Hill Plan (See Figure 3)

333 Fremont, case 2002.1263E;
45 Lansing, case 2004.0481E;
400 ft tower near the corner of Fremont and Harrison;
85 ft high streetwall buildings on both sides of Fremont Street;
65 ft high streetwall buildings west of First and south of Lansing.

and,

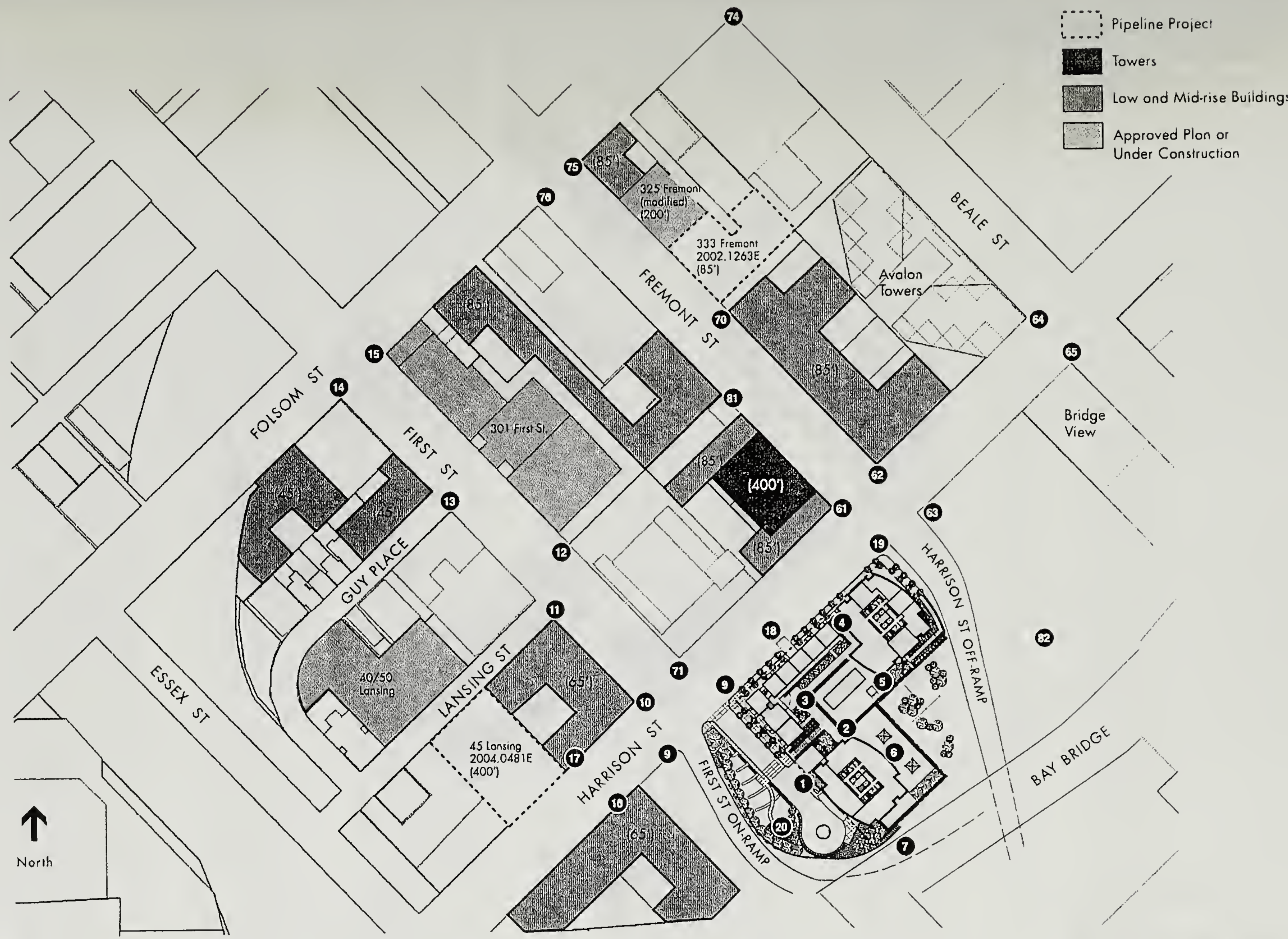
Cumulative #3 – Rincon Hill development under the 82.5 ft. tower spacing and March 2003 heights (See Figure 4)

333 Fremont, case 2002.1263E;
45 Lansing, case 2004.0481E;
340/350 Fremont, case 2004.0553E, a 350 ft tower and 85 ft high streetwall buildings on the west side of Fremont Street;
375 Fremont, case 2002.0449E, and 85 ft high streetwall buildings on the east side of Fremont Street;
300 ft tower at the southwest corner of First and Harrison;
85 ft high streetwall buildings west of First and south of Lansing.
150 ft tower and 85 ft high streetwall buildings on the south side of Folsom, west of First.



Cumulative 1

Pipeline Projects



Cumulative 2

Preferred Option Plan

* Uses design of pipeline project

Cumulative 3

82 ft Spacing and March 03 Heights

Cumulative Comfort Criterion Conditions

The following analysis focuses on the comparisons between the project and cumulative #1, which is the "pipeline" cumulative scenario that is historically evaluated in wind tunnel testing reporting. Comments are also made with respect to the other two cumulative scenarios, as appropriate or whenever material differences in wind conditions were observed.

However, each of these three cumulative scenarios would result in general improvements in wind conditions in the vicinity and would reduce the number and duration of wind hazard exceedances.

Compared to project conditions, with the cumulative #1 scenario, the average wind speed for all test points would increase slightly to 12.3 mph. Wind speeds in public pedestrian areas would range from 8 to 20 mph. Wind speeds of 14 mph or more would occur at 9 of the test locations. The highest wind speeds in the vicinity (20 mph) would at the northeast corner of the Project site (#19) and also occur in front of the Sailors Union of the Pacific building located at the northeast corner of Harrison and First Streets (#71).

Under the cumulative #1 scenario, as compared to the project, wind speeds in public areas would increase at 14 locations, remain unchanged at 4 locations, and decrease at 8 locations. Winds on the project podium would decrease at 3 locations (#2, 5, 6), stay the same at 1 location (#4) and increase at one location (#3).

The cumulative #1 scenario would eliminate three project and one existing pedestrian-comfort criterion exceedances (#61, 63, 76, 82) and add four new exceedances (#1, 13, 16, 17). Wind speeds at 11 of the pedestrian locations would be at or less than the Planning Code's pedestrian-comfort criterion (#11, 14, 15, 61, 63, 64, 70, 75, 76, 81, 82). See Figure 1 and Table 1.

Winds at four of the five new locations on the project podium would remain in excess of the Planning Code's 11 mph pedestrian-comfort criterion.

With the cumulative #1 scenario, few consequential wind speed changes would occur, compared to project conditions. The largest increase, 7 mph, would occur on Harrison Street west of the First Street on-ramp (#16). This increase would create a new exceedance. Across Harrison from that point, the wind speed would increase by 5 mph (#17). Decreases of similar amounts would occur on Harrison, just east of the project site. In general, wind speed increases would occur along Harrison west of Fremont, while speed decreases would occur at Fremont and to the east of Fremont.

At the five test points (#1, 8, 18-20) immediately surrounding the project site, wind speeds would range from 12 to 20 mph. Speeds at all would exceed the pedestrian comfort criterion, one more than under project conditions. At the six points (#2-7) on the proposed building podium, wind speeds would range from 8 mph to 21 mph. One of these six locations (#3) would be at or less than the 11 mph pedestrian-comfort criterion, the same as under project conditions.

Wind speeds would range from 8 mph to 20 mph at the thirteen locations (#8-10, 16-19, 61-65, 71) along Harrison Street. The highest wind speed (20 mph) would occur at two locations on the north side of Harrison Street, one at the southwest corner of Harrison and Fremont Street (#19) and one in front of the Sailors Union of the Pacific building at the northeast corner of Harrison and First Streets (#71). Winds at 3 of these 17 locations (#61, 63, 64) would be at or less than the pedestrian-comfort criterion. This would be two more than under the project.

Along First Street from First Street to Folsom Street, wind speeds at the nine measurement locations (#8-15, 71) would range from 8 to 18 mph. Winds at five of the nine locations (#8. 11, 13-15) would be at or less than the pedestrian-comfort criterion, just as under project conditions.

Along Fremont Street between Folsom and Harrison Streets wind speeds at the nine test locations (#19, 61-63, 66, 70, 75, 76, 81) would range from 6 to 18 mph with the cumulative scenario. Wind speeds at six of the nine (#61, 66, 70, 75, 76, 81) would be at or less than the pedestrian-comfort criterion, two more than under project conditions.

Winds at the six test locations (#14, 15, 73-76) along Folsom Street would range from 8 mph to 12 mph with the cumulative scenario. Wind speeds at five (#14, 15, 73, 75, 76) of the six Folsom Street locations would be at or less than the pedestrian-comfort criterion, one less location than under project conditions.

With the cumulative scenario, wind speeds at the eight test locations (#64, 65, 69, 72-74, 77, 79) along Beale Street between Folsom Street and the Bridge would range from 9 mph to 14 mph. Speeds at the four points on the east side of Beale (#72, 73, 77, 79) would range from 9 mph to 11 mph. At the four locations (#64, 65, 69, 74) on the west side of Beale Street, wind speeds would range from 9 mph to 14 mph. With the project, six (#64, 69, 72, 73, 77. 79) of the Beale Street locations would be at or less than the pedestrian-comfort criterion, one fewer than under project conditions.

At the eight test locations (#19, 61-63, 70, 75, 76, 81) along Fremont Street between Folsom and Harrison Streets, wind speeds would range from 8 mph to 20 mph. With the cumulative scenario, wind speeds at six (#61, 63, 70, 75, 76, 81) of the Fremont Street locations would be at or less than the pedestrian-comfort criterion. This would be three more than under existing conditions.

Winds at the five test locations (#14, 15, 74-76) along Folsom Street would range from 8 mph to 12 mph under the cumulative #1 scenario. Wind speeds at four (#14, 15, 75, 76) of the five Folsom Street locations would be at or less than the pedestrian-comfort criterion, one more location than under project conditions.

Under the cumulative #1 scenario, wind speeds at the three test locations (#64, 65, 74) on the west side of Beale Street between Folsom Street and the Bridge would range from 8 mph to 12 mph. One (#64) location would be at or less than the pedestrian-comfort criterion, the same as under project conditions.

Compared to cumulative #1 scenario, the other cumulative scenarios, #2 and #3 would have small additional benefits for the wind comfort conditions, slightly reducing the average wind speeds and decreasing the number of comfort criterion exceedances by one or two. See Table 1.

Cumulative Hazard Conditions

Under the cumulative #1 scenario, the Code's wind hazard criterion would be exceeded at one pedestrian location (#19) at the northeast corner of the project site. The exceedance would occur for a duration of 5 hours per year, a net reduction of 12 hours per year in the duration of the project exceedance.

In addition to the hazard exceedance in public pedestrian areas, the cumulative #1 scenario would result in one hazard exceedance in the project's open spaces on the project podium (#2 – 4 hours per year) and one exceedance on the deck of the Bay Bridge (#7 – 6 hours per year). The duration of the project exceedance on the project podium would be reduced by 22 hours per year, while the duration of the exceedance on the Bay Bridge would be unchanged.

The effect of the cumulative #1 development scenario on the wind conditions would be beneficial, mitigating most of the hazardous wind conditions due to the project. As can be seen in Table 2, each of the three cumulative scenarios benefits these wind hazard conditions, with cumulative #3 being the best of the three.

IV. SUMMARY

General Conditions and Comfort Criteria

The general vicinity of the project site is moderate to windy. However, in the vicinity of the project area, winds are generally lower than those that occur over much of the South of Market area. The average wind speed for all 26 existing setting test points is 11.2 mph. Wind speeds in pedestrian areas range from 7 to 19 mph. Wind speeds of 14 mph or more occur at 7 of the total 26 existing setting locations. The highest wind speeds in the vicinity (18 and 19 mph) occur on both sides of Harrison Street at First Street. Fourteen of the 26 points currently are at or less than the Planning Code's 11 mph pedestrian-comfort criterion.

With the project, the average wind speed for all 26 test points would increase to 12.2 mph. Wind speeds in pedestrian areas would range from 7 to 21 mph. Compared to existing conditions, wind speeds would increase at 11 locations; remain unchanged at 3 locations; and decrease at 12 locations. Wind speeds of 14 mph or more would occur at 7 of the total 26 pedestrian locations. The highest wind speed in the vicinity (21 mph) would occur downwind of the project, at the northeast corner of the project site, at the intersection of Harrison Street and the Harrison Street off-ramp.

The project would add six new exceedances at the existing test locations and would eliminate three existing pedestrian-comfort criterion exceedances. Exceedances would occur at four of the five new points added on the project podium. Overall, wind speeds at 12 points would be at or less than the Planning Code's pedestrian-comfort criterion value of 11 mph.

With the project and any of the three future cumulative development scenarios, the average wind speed for all 26 test points would range from 12.0 to 12.3 mph. Wind speeds in pedestrian areas would range from 8 to 20 mph. Under the cumulative #1 scenario, as compared to project conditions, wind speeds would increase at 15 locations, remain unchanged at 5 locations, and decrease at 11 locations. Wind speeds of 14 mph or more would occur at 9 pedestrian locations. The highest wind speeds in the vicinity (20 mph) would occur at the northeast corner of the project site and also occur in front of the Sailors Union of the Pacific building located at the northeast corner of Harrison and First Streets. The cumulative #1 scenario would eliminate four project pedestrian-comfort criterion exceedances and create four new pedestrian-comfort criterion exceedances. Eleven of the points would be at or less than the Planning Code's 11 mph pedestrian-comfort criterion.

Compared to the cumulative #1 scenario, cumulative scenarios #2 and #3 would have small additional benefits for the wind comfort conditions, slightly reducing the average wind speeds and decreasing the number of comfort criterion exceedances by one or two, respectively.

Wind Hazard Conditions

The Code's wind hazard criterion of 36 mph is currently exceeded at one of the 26 existing setting test locations. The existing exceedance, with a duration of 2 hours per year, occurs on the south side of Harrison Street, at the bridge that spans Beale Street.

With the project in place, the Code's wind hazard criterion would be exceeded at one pedestrian location at the northeast corner of the project site. The exceedance would occur for a duration of 17 hours per year.

The project would eliminate the existing hazard exceedance, with a duration of 2 hours per year, on the south side of Harrison Street, at the bridge that spans Beale Street.

Under the cumulative #1 scenario, the Code's wind hazard criterion would be exceeded at one pedestrian location at the northeast corner of the project site. The exceedanee would occur for a duration of 5 hours per year, a net reduction of 12 hours per year in the duration of the project exceedance.

The effect of the cumulative #1 development scenario on the wind conditions would be beneficial, mitigating most of the hazardous wind conditions due to the project. As can be seen in Table 2, each of the other two cumulative scenarios also would benefit these wind hazard conditions.

Code Exceedances and Potential for Mitigation

Given the existing wind conditions of the site and vicinity and the modest changes in wind conditions that occur due to the project, it may not be possible to design any structure that fully meets the goals of the project and that fully reduces ambient wind speeds to meet Section 249.1(3) comfort criteria at all locations. It cannot be assured that the planting of large street trees would effectively reduce wind speeds at the identified exceedance locations.

In this case, the project would create one new wind hazard criterion exceedance, with a duration of 2 hours per year, on the south side of Harrison Street, at the bridge that spans Beale Street.

The largest change in wind speed due to the project, an increase of 12 mph, would occur at the northeast corner of the project site, with wind speeds of 21 mph, well in excess of the pedestrian-comfort criterion. The southern sidewalk of Harrison is likely not considered an important pedestrian way, since it is intersected by the Fremont off-ramp and the First Street on-ramps of the Bay Bridge, so the importance of this comfort exceedance is diminished.

It should not be assumed that reducing the size of the project, or changing the design of the project, would effectively reduce wind speeds in the vicinity enough to eliminate all of the existing or projeet pedestrian-comfort criterion exceedances. Furthermore, given the existing wind conditions and combination of buildings in the area, it is not expected that the planting of large street trees in front of the project only would provide sufficient wind speed reductions to eliminate the new or existing exceedances of the pedestrian-eomfort criterion in the vicinity of the site.

However, with respect to the wind hazard exceedances, both in publicly accessible pedestrian locations and on the project podium open space, reductions in the number and duration of these hazard exceedances could be obtained by design changes that substantially reducing the heights of the towers, to heights similar to those of the 2003 design.

San Francisco Planning Code Section 148, Reduction of Ground-level Wind Currents in C-3 Districts

(a) **Requirement and Exception.** In C-3 Districts, buildings and additions to existing buildings shall be shaped, or other wind-baffling measures shall be adopted, so that the developments will not cause ground-level wind currents to exceed, more than 10 percent of the time year round, between 7:00 a.m. and 6:00 p.m., the comfort level of 11 m.p.h. equivalent wind speed in areas of substantial pedestrian use and seven m.p.h. equivalent wind speed in public seating areas.

When preexisting ambient wind speeds exceed the comfort level, or when a proposed building or addition may cause ambient wind speeds to exceed the comfort level, the building shall be designed to reduce the ambient wind speeds to meet the requirements. An exception may be granted, in accordance with the provisions of Section 309, allowing the building or addition to add to the amount of time that the comfort level is exceeded by the least practical amount if (1) it can be shown that a building or addition cannot be shaped and other wind-baffling measures cannot be adopted to meet the foregoing requirements without creating an unattractive and ungainly building form and without unduly restricting the development potential of the building site in question, and (2) it is concluded that, because of the limited amount by which the comfort level is exceeded, the limited location in which the comfort level is exceeded, or the limited time during which the comfort level is exceeded, the addition is insubstantial.

No exception shall be granted and no building or addition shall be permitted that causes equivalent wind speeds to reach or exceed the hazard level of 26 miles per hour for a single hour of the year.

(b) **Definition.** The term "equivalent wind speed" shall mean an hourly mean wind speed adjusted to incorporate the effects of gustiness or turbulence on pedestrians.

(c) **Guidelines.** Procedures and Methodologies for implementing this section shall be specified by the Office of Environmental Review of the Department of City Planning. (Added by Ord. 414-85, App. 9/17/85)

San Francisco Planning Code Section 249.1
Rincon Hill Special Use District

(b) **Controls**

(3) **Reduction of Ground-level Wind Currents.**

(A) **Requirement.** New buildings and additions to existing buildings shall be shaped, or other wind-baffling measures shall be adopted, so that the developments will not cause ground-level wind currents to exceed, more than 10 percent of the time year-round, between 7:00 a.m. and 6:00 p.m., the comfort level of 11 m.p.h. equivalent wind speed in areas of substantial pedestrian use and seven m.p.h. equivalent wind speed in public seating areas. The term "equivalent wind speed" shall mean an hourly mean wind speed adjusted to incorporate the effects of gustiness or turbulence on pedestrians.

When preexisting ambient wind speeds exceed the comfort level, or when a proposed building or addition may cause ambient wind speeds to exceed the comfort level, the building shall be designed to reduce the ambient wind speeds to meet the requirements. The provisions of this Section 249.1(b)(3) shall not apply to any buildings or additions to existing buildings for which a draft EIR has been published prior to January 1, 1985.

(B) **Exception.** The Zoning Administrator may allow the building or addition to add to the amount of time the comfort level is exceeded by the least practical amount if (1) it can be shown that a building or addition cannot be shaped and other wind-baffling measures cannot be adopted to meet the foregoing requirements without creating an unattractive and ungainly building form and without unduly restricting the development potential of the building site in question, and (2) it is concluded that, because of the limited amount by which the comfort level is exceeded, the limited location in which the comfort level is exceeded, or the limited time during which the comfort level is exceeded, the addition is insubstantial.

The Zoning Administrator shall not grant an exception and no building or addition shall be permitted that causes equivalent wind speeds to reach or exceed the hazard level of 26 miles per hour for a single hour of the year.

(C) **Procedures.** Procedures and methodologies for implementing this Section shall be specified by the Office of Environmental Review of the Department of City Planning.

ATTACHMENTS – WIND-TUNNEL DATA AND CALCULATIONS

Pedestrian Comfort Analysis

10% Exceeded Winds

In the following tables for the Comfort Criterion tests, the output for each location is presented in three-line groups. The ratios of pedestrian-level wind speeds to the 132-ft. height reference wind speeds at the old Civic Center meteorological station are shown in the first line of output for each location.

The second line of the output shows the pedestrian level wind speeds, in mph, which would be exceeded 10% of the time for each measurement location. Section 249.1(3) of the Planning Code sets comfort criteria of 11 mph for areas of substantial public pedestrian use and 7 mph for public seating areas. These criteria are not to be exceeded more than 10% of the time.

The third line of output for each location shows the criterion speed and the percentage of the time the criterion would be exceeded. The rows labeled CONTRIB tabulate the percentage contribution to the total or the exceedance from each wind direction. The SUMs are the equivalent number of events.

Wind Hazard Analysis

1 Hour per Year Exceeded Winds

In the following tables for the Hazard Criterion tests, the output for each location is presented in three-line groups. The ratios of pedestrian-level wind speeds to the 132-ft. height reference wind speeds at the old Civic Center meteorological station are shown in the first line of output for each location.

The second line of the output shows the pedestrian level wind speeds, in mph, which would be exceeded one hour per year (0.01141552512% of the time) for each measurement location tested. Section 249.1(3) of the Planning Code sets a wind hazard criterion that an hourly average speed of 36 mph for a full hour (a one-minute average speed of 36 mph) not be reached or exceeded one hour per year.

The third line of output for each location shows the criterion speed and the percentage of the time the criterion would be exceeded. The rows labeled CONTRIB tabulate the percentage contribution to the total or the exceedance from each wind direction. The SUMs are the equivalent number of events.

WIND-TUNNEL TEST RESULTS 07/15/04

One Rincon Hill
San Francisco, California

Existing Setting
Wind Test Date: 14 July 2004

The ratios of pedestrian-level wind speeds to the 132-ft. height reference wind speeds at the old Civic Center meteorological station are shown in the first line of output for each location.

The second line of the output shows the pedestrian level wind speeds, in mph, which would be exceeded 10% of the time for each measurement location. Section 148 of the Planning Code sets comfort criteria of 11 mph for areas of substantial public pedestrian use and 7 mph for public seating areas. These criteria are not to be exceeded more than 10% of the time.

The third line of output for each location shows the criterion speed and the percentage of the time the criterion would be exceeded. The rows labeled CONTRIB tabulate the percentage contribution to the total or the exceedance from each wind direction. The SUMs are the equivalent number of events.

Location	10.0% Exc. Ground Speed	Criterion Speed Exc.	Criterion % Time Exc.		NW	WNW	W	WSW	OTHER	SUM
				Profile Ratios:	2.0000	2.0000	2.0000	2.0000	2.0000	
1				RATIOS	0.5036	0.5160	0.6516	0.4516	0.5307	
	12.0			CONTRIB	5.79%	20.55%	70.47%	0.35%	2.84%	3,280
		11.0	13.80	CONTRIB	6.97%	22.33%	66.83%	0.46%	3.40%	4,527
2				RATIOS	0.0000	0.0000	0.0000	0.0000	0.0000	
	11.0			CONTRIB	10.20%	14.22%	35.89%	11.54%	28.15%	32,795
		11.0	0.00	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
3				RATIOS	0.0000	0.0000	0.0000	0.0000	0.0000	
	11.0			CONTRIB	10.20%	14.22%	35.89%	11.54%	28.15%	32,795
		11.0	0.00	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
4				RATIOS	0.0000	0.0000	0.0000	0.0000	0.0000	
	11.0			CONTRIB	10.20%	14.22%	35.89%	11.54%	28.15%	32,795
		11.0	0.00	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
5				RATIOS	0.0000	0.0000	0.0000	0.0000	0.0000	
	11.0			CONTRIB	10.20%	14.22%	35.89%	11.54%	28.15%	32,795
		11.0	0.00	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
6				RATIOS	0.0000	0.0000	0.0000	0.0000	0.0000	
	11.0			CONTRIB	10.20%	14.22%	35.89%	11.54%	28.15%	32,795
		11.0	0.00	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
7				RATIOS	0.3932	0.4084	0.7788	0.9982	0.6446	
	14.0			CONTRIB	0.00%	0.35%	79.75%	16.29%	3.61%	3,284
		11.0	19.89	CONTRIB	0.64%	3.82%	69.91%	19.67%	5.95%	6,522
8				RATIOS	0.3426	0.4144	0.6320	0.8152	0.5510	
	11.6			CONTRIB	0.01%	5.55%	74.51%	15.58%	4.35%	3,280
		11.0	11.94	CONTRIB	0.22%	7.20%	72.01%	15.71%	4.86%	3,917
9				RATIOS	0.4900	0.6226	0.7604	0.6526	0.6314	
	14.0			CONTRIB	0.97%	23.90%	70.55%	1.41%	3.16%	3,280
		11.0	21.61	CONTRIB	3.82%	26.77%	60.90%	3.37%	5.14%	7,087
10				RATIOS	0.4618	0.5604	0.8208	0.6966	0.6349	
	14.4			CONTRIB	0.35%	11.12%	83.93%	1.81%	2.79%	3,281
		11.0	22.94	CONTRIB	2.57%	19.49%	68.39%	4.62%	4.92%	7,524

11				RATIOS	0.3996	0.3320	0.4626	0.7778	0.4930	
	9.1			CONTRIB	7.57%	6.49%	45.61%	31.38%	8.96%	3,280
		11.0	3.37	CONTRIB	4.57%	2.14%	37.21%	46.87%	9.20%	1,107
12				RATIOS	0.4346	0.6332	0.9302	0.5020	0.6250	
	16.1			CONTRIB	0.00%	12.31%	86.87%	0.07%	0.75%	3,280
		11.0	28.46	CONTRIB	1.44%	20.83%	73.51%	0.44%	3.78%	9,335
13				RATIOS	0.3700	0.4728	0.6676	0.3660	0.4691	
	11.8			CONTRIB	0.29%	14.97%	83.59%	0.07%	1.08%	3,280
		11.0	12.14	CONTRIB	0.52%	17.11%	80.33%	0.11%	1.94%	3,983
14				RATIOS	0.3392	0.3506	0.4182	0.3222	0.3575	
	7.8			CONTRIB	7.02%	24.92%	63.98%	0.64%	3.44%	3,279
		11.0	0.71	CONTRIB	2.40%	29.11%	67.88%	0.06%	0.56%	232
15				RATIOS	0.3872	0.3692	0.4648	0.5322	0.4383	
	8.8			CONTRIB	7.71%	18.66%	59.68%	8.32%	5.63%	3,280
		11.0	2.02	CONTRIB	5.29%	15.83%	64.48%	9.11%	5.29%	663
16				RATIOS	0.3904	0.4660	0.6716	0.6888	0.5542	
	12.1			CONTRIB	0.40%	10.59%	79.85%	5.60%	3.55%	3,280
		11.0	13.57	CONTRIB	0.87%	14.34%	72.88%	7.50%	4.41%	4,451
17				RATIOS	0.3396	0.3132	0.5290	0.7656	0.4868	
	9.8			CONTRIB	0.89%	2.10%	68.82%	22.68%	5.52%	3,280
		11.0	4.97	CONTRIB	0.37%	0.43%	63.31%	30.07%	5.83%	1,629
18				RATIOS	0.3142	0.4704	1.0682	0.7840	0.6592	
	17.5			CONTRIB	0.00%	0.06%	98.33%	1.10%	0.51%	3,287
		11.0	28.66	CONTRIB	0.00%	7.09%	82.81%	5.68%	4.42%	9,399
19				RATIOS	0.3186	0.3590	0.5258	0.4342	0.4094	
	9.3			CONTRIB	0.82%	11.03%	83.77%	1.50%	2.88%	3,280
		11.0	3.36	CONTRIB	0.01%	7.49%	89.73%	1.46%	1.32%	1,103
20				RATIOS	0.5118	0.6152	0.8736	0.5744	0.6437	
	15.4			CONTRIB	0.54%	14.00%	83.18%	0.34%	1.94%	3,280
		11.0	26.34	CONTRIB	4.01%	21.58%	68.77%	1.17%	4.48%	8,637
61				RATIOS	0.2348	0.1708	0.3778	0.7668	0.3875	
	7.6			CONTRIB	0.24%	0.00%	40.25%	52.99%	6.52%	3,280
		11.0	1.71	CONTRIB	0.00%	0.00%	10.66%	88.06%	1.28%	559
62				RATIOS	0.2456	0.3406	0.3794	0.7200	0.4214	
	7.9			CONTRIB	0.25%	20.98%	30.96%	39.61%	8.21%	3,280
		11.0	1.57	CONTRIB	0.00%	7.86%	12.04%	76.01%	4.09%	516
63				RATIOS	0.2978	0.2516	0.3960	0.6500	0.3988	
	7.6			CONTRIB	3.72%	2.85%	54.32%	31.57%	7.54%	3,280
		11.0	1.03	CONTRIB	0.00%	0.00%	27.75%	69.16%	3.08%	337
64				RATIOS	0.3918	0.3934	0.2380	0.2742	0.3243	
	6.5			CONTRIB	26.51%	63.74%	3.33%	0.75%	5.66%	3,280
		11.0	0.67	CONTRIB	18.20%	81.80%	0.00%	0.00%	0.00%	221
65				RATIOS	0.4078	0.4650	0.7906	1.2478	0.7278	
	14.8			CONTRIB	0.00%	1.61%	63.47%	29.75%	5.17%	3,280
		11.0	24.30	CONTRIB	0.80%	7.93%	59.23%	24.97%	7.05%	7,969
70				RATIOS	0.2992	0.5406	0.4266	0.2956	0.3905	
	8.9			CONTRIB	0.66%	64.58%	31.79%	0.13%	2.83%	3,280
		11.0	4.41	CONTRIB	0.00%	86.30%	13.15%	0.00%	0.55%	1,445
71				RATIOS	0.4600	0.7456	1.0760	0.7418	0.7558	
	18.8			CONTRIB	0.00%	13.29%	85.03%	0.49%	1.19%	3,285
		11.0	35.21	CONTRIB	1.64%	21.38%	67.74%	3.78%	5.46%	11,547

74				RATIOS	0.3228	0.4672	0.6124	0.4750	0.4693	
	11.1			CONTRIB	0.00%	18.81%	78.13%	0.82%	2.23%	3,280
		11.0	10.29	CONTRIB	0.01%	19.13%	77.72%	0.85%	2.29%	3,376
75				RATIOS	0.3406	0.3318	0.5026	0.5322	0.4268	
	9.0			CONTRIB	2.35%	6.87%	79.71%	6.91%	4.16%	3,280
		11.0	2.57	CONTRIB	0.87%	2.77%	86.25%	7.16%	2.95%	844
76				RATIOS	0.3510	0.5054	0.6872	0.6132	0.5392	
	12.4			CONTRIB	0.00%	16.29%	78.97%	2.12%	2.61%	3,282
		11.0	14.26	CONTRIB	0.24%	19.68%	73.12%	3.36%	3.60%	4,677
81				RATIOS	0.3116	0.5086	0.3560	0.5516	0.4319	
	8.3			CONTRIB	2.14%	64.50%	13.96%	12.41%	6.99%	3,280
		11.0	3.24	CONTRIB	0.00%	89.06%	0.97%	7.23%	2.73%	1,063
82				RATIOS	0.3366	0.3602	0.3696	0.3958	0.3655	
	7.3			CONTRIB	9.72%	37.79%	43.04%	3.83%	5.62%	3,279
		11.0	0.45	CONTRIB	2.20%	57.33%	32.63%	5.57%	2.27%	148

WIND-TUNNEL TEST RESULTS 07/15/04

One Rincon Hill
San Francisco, California

Project in Existing Setting
Wind Test Date: 14 July 2004

The ratios of pedestrian-level wind speeds to the 132-ft. height reference wind speeds at the old Civic Center meteorological station are shown in the first line of output for each location.

The second line of the output shows the pedestrian level wind speeds, in mph, which would be exceeded 10% of the time for each measurement location. Section 148 of the Planning Code sets comfort criteria of 11 mph for areas of substantial public pedestrian use and 7 mph for public seating areas. These criteria are not to be exceeded more than 10% of the time.

The third line of output for each location shows the criterion speed and the percentage of the time the criterion would be exceeded. The rows labeled CONTRIB tabulate the percentage contribution to the total or the exceedance from each wind direction. The SUMs are the equivalent number of events.

Location	10.0% Exc. Ground Speed	Criterion Speed Exc.	Criterion % Time Exc.		NW	WNW	W	WSW	OTHER	SUM
				Profile Ratios:	2.0000	2.0000	2.0000	2.0000	2.0000	
1				RATIOS	0.4230	0.5482	0.4772	0.4726	0.4802	
	9.9			CONTRIB	6.42%	55.80%	31.37%	1.65%	4.77%	3,280
		11.0	6.26	CONTRIB	4.77%	64.68%	24.90%	1.36%	4.28%	2,054
2				RATIOS	0.5064	0.8692	1.2728	1.4606	1.0272	
	23.1			CONTRIB	0.00%	8.55%	77.94%	10.53%	2.98%	3,294
		11.0	49.03	CONTRIB	2.03%	19.21%	54.50%	14.93%	9.34%	16,079
3				RATIOS	0.2574	0.2138	0.2650	0.5262	0.3156	
	5.6			CONTRIB	9.57%	9.24%	27.24%	43.61%	10.35%	3,280
		11.0	0.17	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	56
4				RATIOS	0.5214	0.6204	0.6644	0.5516	0.5894	
	12.8			CONTRIB	5.07%	36.26%	54.10%	0.89%	3.69%	3,280
		11.0	17.66	CONTRIB	6.64%	32.59%	54.65%	1.33%	4.80%	5,790
5				RATIOS	0.2142	0.5602	1.5332	1.6428	0.9876	
	26.2			CONTRIB	0.00%	0.00%	89.32%	10.17%	0.51%	3,284
		11.0	47.39	CONTRIB	0.00%	9.42%	63.94%	17.76%	8.87%	15,540
6				RATIOS	0.6298	0.9496	0.7654	0.5810	0.7314	
	16.0			CONTRIB	3.92%	61.98%	30.35%	0.27%	3.47%	3,280
		11.0	28.11	CONTRIB	8.46%	36.64%	47.53%	1.18%	6.19%	9,220
7				RATIOS	0.3356	0.6170	1.0622	1.5094	0.8810	
	19.5			CONTRIB	0.00%	1.91%	72.97%	21.89%	3.23%	3,280
		11.0	40.04	CONTRIB	0.02%	14.26%	59.05%	19.01%	7.67%	13,131
8				RATIOS	0.2792	0.3912	0.6620	0.7220	0.5136	
	11.6			CONTRIB	0.00%	3.25%	84.06%	9.84%	2.85%	3,280
		11.0	11.69	CONTRIB	0.00%	4.49%	81.84%	10.33%	3.34%	3,834
9				RATIOS	0.4082	0.5924	0.6654	0.4718	0.5344	
	12.5			CONTRIB	0.46%	32.70%	64.04%	0.38%	2.42%	3,280
		11.0	15.83	CONTRIB	1.25%	33.98%	61.16%	0.53%	3.09%	5,192
10				RATIOS	0.2500	0.5618	0.6778	0.5724	0.5155	
	12.5			CONTRIB	0.00%	25.49%	71.54%	1.29%	1.68%	3,280
		11.0	15.33	CONTRIB	0.00%	29.52%	65.92%	1.96%	2.60%	5,026

11				RATIOS	0.3390	0.3262	0.6052	0.8078	0.5195	
	11.0			CONTRIB	0.14%	0.47%	77.29%	17.99%	4.11%	3,279
		11.0	10.08	CONTRIB	0.16%	0.50%	77.21%	18.00%	4.14%	3,307
12				RATIOS	0.3316	0.5618	0.8024	0.4766	0.5431	
	14.0			CONTRIB	0.00%	14.32%	84.81%	0.15%	0.72%	3,280
		11.0	20.05	CONTRIB	0.02%	22.57%	74.30%	0.45%	2.67%	6,574
13				RATIOS	0.3498	0.4550	0.6168	0.3598	0.4453	
	11.0			CONTRIB	0.32%	17.33%	80.96%	0.11%	1.28%	3,280
		11.0	10.05	CONTRIB	0.33%	17.38%	80.87%	0.11%	1.31%	3,298
14				RATIOS	0.3768	0.3588	0.4674	0.2514	0.3636	
	8.6			CONTRIB	7.49%	18.14%	72.13%	0.00%	2.23%	3,279
		11.0	1.69	CONTRIB	4.60%	14.81%	80.02%	0.00%	0.57%	555
15				RATIOS	0.3828	0.4002	0.4938	0.6416	0.4796	
	9.4			CONTRIB	4.84%	19.51%	55.68%	13.69%	6.27%	3,280
		11.0	3.62	CONTRIB	2.59%	17.65%	54.42%	17.98%	7.36%	1,186
16				RATIOS	0.3014	0.4190	0.5666	0.4996	0.4466	
	10.2			CONTRIB	0.01%	16.61%	78.78%	1.94%	2.66%	3,280
		11.0	6.22	CONTRIB	0.00%	15.19%	80.66%	1.96%	2.19%	2,041
17				RATIOS	0.3360	0.3318	0.4866	0.6276	0.4455	
	9.0			CONTRIB	2.14%	7.19%	70.15%	15.08%	5.45%	3,279
		11.0	2.55	CONTRIB	0.34%	2.79%	69.75%	21.95%	5.17%	837
18				RATIOS	0.3476	0.3530	0.7098	0.7466	0.5392	
	12.2			CONTRIB	0.00%	0.28%	88.03%	8.85%	2.84%	3,280
		11.0	13.36	CONTRIB	0.23%	1.63%	84.09%	10.21%	3.85%	4,381
19				RATIOS	0.3690	0.7144	1.2052	1.4094	0.9245	
	21.4			CONTRIB	0.00%	3.06%	82.17%	12.23%	2.53%	3,281
		11.0	43.45	CONTRIB	0.14%	16.27%	59.26%	16.14%	8.18%	14,251
20				RATIOS	0.4848	0.7488	0.6196	0.5562	0.6023	
	12.8			CONTRIB	2.42%	60.43%	32.23%	0.90%	4.02%	3,280
		11.0	17.77	CONTRIB	4.37%	42.62%	46.24%	1.40%	5.38%	5,828
61				RATIOS	0.3854	0.3878	0.8186	1.0176	0.6523	
	14.6			CONTRIB	0.00%	0.05%	81.70%	15.15%	3.10%	3,285
		11.0	21.61	CONTRIB	0.47%	2.26%	72.17%	19.42%	5.68%	7,086
62				RATIOS	0.3352	0.5770	0.8322	0.9136	0.6645	
	15.1			CONTRIB	0.00%	9.98%	78.67%	8.50%	2.85%	3,282
		11.0	25.44	CONTRIB	0.03%	20.05%	63.66%	11.15%	5.10%	8,344
63				RATIOS	0.3116	0.4186	1.0372	0.5646	0.5830	
	16.9			CONTRIB	0.00%	0.00%	99.70%	0.13%	0.16%	3,282
		11.0	25.27	CONTRIB	0.00%	3.71%	92.05%	1.09%	3.15%	8,288
64				RATIOS	0.3654	0.4084	0.2796	0.2212	0.3186	
	6.7			CONTRIB	21.09%	63.76%	10.87%	0.11%	4.16%	3,280
		11.0	0.81	CONTRIB	6.70%	93.30%	0.00%	0.00%	0.00%	267
65				RATIOS	0.3722	0.5064	1.0562	0.6634	0.6495	
	17.3			CONTRIB	0.00%	0.38%	98.71%	0.41%	0.50%	3,287
		11.0	28.48	CONTRIB	0.24%	9.95%	82.70%	2.86%	4.25%	9,339
70				RATIOS	0.2906	0.4844	0.3790	0.3014	0.3638	
	7.9			CONTRIB	1.68%	64.53%	29.89%	0.38%	3.52%	3,280
		11.0	2.52	CONTRIB	0.00%	92.16%	7.45%	0.00%	0.38%	825
71				RATIOS	0.4104	0.6886	0.9902	0.7474	0.7091	
	17.4			CONTRIB	0.00%	13.28%	84.40%	0.86%	1.46%	3,280
		11.0	32.41	CONTRIB	0.65%	20.68%	69.56%	4.22%	4.89%	10,629

74				RATIOS	0.2268	0.4378	0.6746	0.6580	0.4993	
	11.8			CONTRIB	0.00%	7.63%	85.26%	4.84%	2.27%	3,280
		11.0	12.47	CONTRIB	0.00%	11.03%	80.11%	6.18%	2.67%	4,091
75				RATIOS	0.2740	0.3508	0.5066	0.3852	0.3791	
	8.9			CONTRIB	0.14%	12.59%	84.05%	0.89%	2.33%	3,280
		11.0	2.59	CONTRIB	0.00%	7.99%	90.60%	0.77%	0.64%	848
76				RATIOS	0.3786	0.4894	0.6506	0.4682	0.4967	
	11.8			CONTRIB	0.38%	17.99%	78.88%	0.52%	2.23%	3,280
		11.0	12.11	CONTRIB	0.68%	20.05%	75.93%	0.66%	2.68%	3,971
81				RATIOS	0.3256	0.4028	0.5412	0.4196	0.4223	
	9.8			CONTRIB	0.56%	17.16%	78.92%	0.84%	2.52%	3,280
		11.0	4.45	CONTRIB	0.02%	15.14%	82.46%	0.89%	1.48%	1,461
82				RATIOS	0.4266	0.5506	0.6940	0.6410	0.5780	
	12.8			CONTRIB	0.59%	21.13%	72.61%	2.37%	3.30%	3,280
		11.0	16.53	CONTRIB	2.00%	24.99%	64.52%	3.91%	4.59%	5,422

WIND-TUNNEL TEST RESULTS 07/15/04

One Rincon Hill
San Francisco, California

Cumulative #1
Wind Test Date: 14 July 2004

The ratios of pedestrian-level wind speeds to the 132-ft. height reference wind speeds at the old Civic Center meteorological station are shown in the first line of output for each location.

The second line of the output shows the pedestrian level wind speeds, in mph, which would be exceeded 10% of the time for each measurement location. Section 148 of the Planning Code sets comfort criteria of 11 mph for areas of substantial public pedestrian use and 7 mph for public seating areas. These criteria are not to be exceeded more than 10% of the time.

The third line of output for each location shows the criterion speed and the percentage of the time the criterion would be exceeded. The rows labeled CONTRIB tabulate the percentage contribution to the total or the exceedance from each wind direction. The SUMs are the equivalent number of events.

Location	10.0% Exc. Ground Speed	Criterion Speed Exc.	Criterion % Time Exc.		NW	WNW	W	WSW	OTHER	SUM
				Profile Ratios:	2.0000	2.0000	2.0000	2.0000	2.0000	
1				RATIOS	0.4236	0.5896	0.6014	0.5878	0.5506	
	11.7			CONTRIB	1.48%	42.58%	49.48%	2.38%	4.08%	3,280
		11.0	14.12	CONTRIB	2.15%	37.84%	53.36%	2.55%	4.09%	4,629
2				RATIOS	0.4832	0.8444	1.1224	1.3996	0.9624	
	20.9			CONTRIB	0.00%	15.84%	67.45%	13.06%	3.65%	3,280
		11.0	45.26	CONTRIB	1.68%	19.95%	54.22%	15.37%	8.78%	14,843
3				RATIOS	0.1988	0.2098	0.4194	0.6004	0.3571	
	7.7			CONTRIB	0.00%	0.08%	73.56%	22.59%	3.77%	3,280
		11.0	0.91	CONTRIB	0.00%	0.00%	54.03%	45.57%	0.40%	299
4				RATIOS	0.4536	0.5616	0.6640	0.7380	0.6043	
	12.5			CONTRIB	1.51%	25.26%	61.49%	7.01%	4.73%	3,280
		11.0	16.96	CONTRIB	3.14%	26.62%	56.80%	7.71%	5.73%	5,563
5				RATIOS	0.3086	0.4416	1.1308	0.7292	0.6525	
	18.5			CONTRIB	0.00%	0.00%	99.28%	0.49%	0.23%	3,292
		11.0	28.63	CONTRIB	0.00%	5.18%	86.16%	4.37%	4.29%	9,388
6				RATIOS	0.6564	0.8768	0.6572	0.7496	0.7350	
	14.6			CONTRIB	8.61%	62.92%	19.84%	2.72%	5.91%	3,280
		11.0	24.70	CONTRIB	10.52%	38.63%	38.10%	5.60%	7.15%	8,099
7				RATIOS	0.3432	0.4592	1.0076	1.4892	0.8248	
	18.6			CONTRIB	0.00%	0.00%	71.97%	25.06%	2.97%	3,280
		11.0	34.66	CONTRIB	0.08%	5.26%	65.82%	21.61%	7.24%	11,367
8				RATIOS	0.3552	0.5288	0.6910	0.8414	0.6041	
	12.9			CONTRIB	0.00%	17.03%	66.98%	11.94%	4.05%	3,280
		11.0	17.12	CONTRIB	0.23%	20.11%	61.69%	12.29%	5.67%	5,614
9				RATIOS	0.5520	0.7392	0.6852	0.8456	0.7055	
	14.1			CONTRIB	3.54%	50.13%	33.01%	7.67%	5.66%	3,280
		11.0	23.11	CONTRIB	7.00%	32.16%	44.82%	9.27%	6.74%	7,579
10				RATIOS	0.5874	0.7288	0.6418	1.0890	0.7617	
	14.3			CONTRIB	5.30%	45.40%	20.05%	20.93%	8.32%	3,280
		11.0	25.37	CONTRIB	8.07%	28.70%	35.12%	20.35%	7.76%	8,320

11				RATIOS	0.3806	0.3796	0.4720	0.9950	0.5568	
	10.0			CONTRIB	2.53%	8.86%	26.93%	51.68%	10.00%	3,280
		11.0	6.42	CONTRIB	1.36%	6.32%	22.53%	60.21%	9.57%	2,107
12				RATIOS	0.4036	0.5758	0.8504	0.6512	0.6202	
	14.8			CONTRIB	0.00%	11.23%	85.76%	0.99%	2.02%	3,282
		11.0	24.02	CONTRIB	0.72%	21.04%	70.87%	2.99%	4.38%	7,878
13				RATIOS	0.3672	0.4602	0.6670	0.5170	0.5028	
	11.7			CONTRIB	0.27%	12.23%	84.07%	1.01%	2.43%	3,280
		11.0	12.13	CONTRIB	0.48%	15.16%	80.25%	1.25%	2.86%	3,979
14				RATIOS	0.3534	0.2900	0.5036	0.3990	0.3865	
	8.7			CONTRIB	4.93%	3.05%	87.74%	1.31%	2.98%	3,280
		11.0	2.34	CONTRIB	1.58%	0.18%	96.19%	1.15%	0.90%	767
15				RATIOS	0.3672	0.4192	0.4894	0.7338	0.5024	
	9.6			CONTRIB	2.79%	22.26%	46.61%	20.95%	7.39%	3,280
		11.0	4.48	CONTRIB	1.29%	21.17%	41.29%	28.55%	7.70%	1,471
16				RATIOS	0.3856	0.5702	0.9950	1.1240	0.7687	
	17.5			CONTRIB	0.00%	2.46%	83.67%	11.11%	2.76%	3,284
		11.0	34.94	CONTRIB	0.29%	13.84%	64.73%	15.34%	5.80%	11,460
17				RATIOS	0.4018	0.5166	0.7276	1.1346	0.6951	
	13.8			CONTRIB	0.00%	8.11%	58.62%	27.29%	5.97%	3,280
		11.0	22.06	CONTRIB	0.74%	14.04%	53.89%	24.56%	6.75%	7,236
18				RATIOS	0.3106	0.4042	0.6920	0.7718	0.5446	
	12.2			CONTRIB	0.00%	2.87%	83.52%	10.57%	3.04%	3,280
		11.0	13.37	CONTRIB	0.00%	5.20%	79.24%	11.50%	4.06%	4,385
19				RATIOS	0.4136	0.6608	1.1450	1.4020	0.9053	
	20.5			CONTRIB	0.00%	2.29%	80.77%	14.07%	2.88%	3,281
		11.0	41.72	CONTRIB	0.55%	15.12%	59.62%	16.71%	8.00%	13,682
20				RATIOS	0.4794	0.5502	0.7998	0.5318	0.5903	
	14.0			CONTRIB	0.76%	12.17%	84.52%	0.38%	2.17%	3,281
		11.0	20.67	CONTRIB	3.53%	19.92%	71.53%	0.89%	4.13%	6,777
61				RATIOS	0.2390	0.3430	0.4974	0.9698	0.5123	
	10.0			CONTRIB	0.00%	3.87%	39.67%	49.87%	6.59%	3,280
		11.0	6.12	CONTRIB	0.00%	2.34%	33.79%	57.58%	6.30%	2,007
62				RATIOS	0.2762	0.5902	0.9000	0.9800	0.6866	
	16.0			CONTRIB	0.00%	7.08%	81.57%	8.94%	2.41%	3,281
		11.0	29.84	CONTRIB	0.00%	-17.93%	65.00%	12.27%	4.81%	9,786
63				RATIOS	0.3680	0.5902	0.4496	0.3908	0.4496	
	9.6			CONTRIB	2.98%	65.55%	26.80%	0.61%	4.05%	3,280
		11.0	6.54	CONTRIB	0.90%	81.84%	14.64%	0.34%	2.27%	2,144
64				RATIOS	0.3666	0.4548	0.3506	0.3236	0.3739	
	7.7			CONTRIB	11.84%	61.33%	21.30%	0.73%	4.80%	3,280
		11.0	1.82	CONTRIB	3.10%	95.59%	0.53%	0.03%	0.75%	598
65				RATIOS	0.3782	0.3032	0.6634	1.0860	0.6077	
	12.5			CONTRIB	0.05%	0.00%	61.61%	33.43%	4.91%	3,280
		11.0	15.84	CONTRIB	0.51%	0.07%	60.70%	32.48%	6.24%	5,195
70				RATIOS	0.3790	0.4786	0.4368	0.3140	0.4021	
	8.9			CONTRIB	6.43%	53.74%	36.35%	0.21%	3.27%	3,280
		11.0	3.04	CONTRIB	2.74%	72.21%	23.89%	0.00%	1.15%	997
71				RATIOS	0.5516	0.7748	1.1424	0.8834	0.8380	
	19.9			CONTRIB	0.00%	11.28%	85.53%	1.04%	2.15%	3,283
		11.0	39.56	CONTRIB	4.07%	20.13%	62.78%	6.35%	6.66%	12,972
74				RATIOS	0.3486	0.4946	0.7018	0.5244	0.5173	
	12.4			CONTRIB	0.00%	14.10%	83.18%	0.77%	1.95%	3,280
		11.0	14.10	CONTRIB	0.22%	18.07%	77.64%	1.18%	2.89%	4,623

75				RATIOS	0.3840	0.3560	0.4550	0.4236	0.4046	
	8.5			CONTRIB	8.99%	18.59%	65.76%	2.27%	4.39%	3,280
		11.0	1.48	CONTRIB	6.54%	15.80%	72.27%	2.83%	2.57%	487
76				RATIOS	0.3884	0.4454	0.5350	0.4494	0.4545	
	10.0			CONTRIB	3.53%	24.89%	66.96%	1.17%	3.45%	3,280
		11.0	5.33	CONTRIB	2.08%	29.80%	63.75%	1.15%	3.21%	1,747
81				RATIOS	0.4310	0.5156	0.2866	0.5046	0.4344	
	8.4			CONTRIB	18.34%	65.10%	1.70%	7.92%	6.93%	3,280
		11.0	3.67	CONTRIB	10.13%	83.73%	0.00%	3.54%	2.60%	1,203
82				RATIOS	0.3368	0.4522	0.5772	0.7082	0.5186	
	10.8			CONTRIB	0.26%	18.48%	64.63%	12.04%	4.58%	3,279
		11.0	8.94	CONTRIB	0.12%	19.01%	63.68%	12.59%	4.61%	2,933

One Rincon Hill
San Francisco, California

Cumulative #2
Wind Test Date: 14 July 2004

The ratios of pedestrian-level wind speeds to the 132-ft. height reference wind speeds at the old Civic Center meteorological station are shown in the first line of output for each location.

The second line of the output shows the pedestrian level wind speeds, in mph, which would be exceeded 10% of the time for each measurement location. Section 148 of the Planning Code sets comfort criteria of 11 mph for areas of substantial public pedestrian use and 7 mph for public seating areas. These criteria are not to be exceeded more than 10% of the time.

The third line of output for each location shows the criterion speed and the percentage of the time the criterion would be exceeded. The rows labeled CONTRIB tabulate the percentage contribution to the total or the exceedance from each wind direction. The SUMs are the equivalent number of events.

Location	10.0% Exc. Ground Speed	Criterion Speed Exc.	Criterion % Time Exc.		NW	WNW	W	WSW	OTHER	SUM
				Profile Ratios:	2.0000	2.0000	2.0000	2.0000	2.0000	
1				RATIOS	0.4272	0.4766	0.5128	0.6634	0.5200	
	10.1			CONTRIB	6.02%	31.11%	44.32%	11.94%	6.62%	3,280
		11.0	6.27	CONTRIB	5.35%	34.37%	40.60%	13.00%	6.68%	2,056
2				RATIOS	0.5198	0.8912	1.0598	1.5246	0.9988	
	20.4			CONTRIB	0.00%	22.36%	53.20%	19.34%	5.10%	3,280
		11.0	46.54	CONTRIB	2.47%	20.99%	50.73%	16.55%	9.26%	15,261
3				RATIOS	0.2004	0.2052	0.2444	0.4294	0.2698	
	5.0			CONTRIB	4.67%	17.26%	36.37%	32.63%	9.07%	3,279
		11.0	0.05	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	15
4				RATIOS	0.4142	0.5074	0.6826	0.7824	0.5966	
	12.6			CONTRIB	0.48%	15.11%	70.36%	9.84%	4.21%	3,280
		11.0	15.88	CONTRIB	1.47%	17.99%	64.65%	10.18%	5.71%	5,208
5				RATIOS	0.2498	0.3590	1.0412	0.6662	0.5790	
	17.0			CONTRIB	0.00%	0.00%	99.39%	0.47%	0.14%	3,294
		11.0	25.18	CONTRIB	0.00%	1.00%	92.63%	3.33%	3.04%	8,258
6				RATIOS	0.6340	0.8550	0.6610	0.7060	0.7140	
	14.4			CONTRIB	7.70%	61.98%	22.84%	2.01%	5.46%	3,280
		11.0	23.87	CONTRIB	10.10%	38.52%	39.95%	4.66%	6.77%	7,829
7				RATIOS	0.2516	0.3490	1.0348	1.4682	0.7759	
	18.9			CONTRIB	0.00%	0.00%	76.15%	22.27%	1.58%	3,280
		11.0	32.87	CONTRIB	0.00%	0.60%	70.66%	22.40%	6.34%	10,781
8				RATIOS	0.3374	0.4158	0.6540	0.7970	0.5510	
	11.9			CONTRIB	0.00%	4.67%	78.34%	13.18%	3.81%	3,280
		11.0	12.51	CONTRIB	0.09%	7.08%	74.38%	13.82%	4.64%	4,103
9				RATIOS	0.2730	0.5296	0.7066	0.7944	0.5759	
	13.0			CONTRIB	0.00%	16.26%	71.99%	8.85%	2.90%	3,280
		11.0	17.03	CONTRIB	0.00%	20.35%	65.26%	10.03%	4.36%	5,586
10				RATIOS	0.1632	0.1938	0.4128	0.7482	0.3795	
	8.0			CONTRIB	0.00%	0.00%	51.63%	44.04%	4.33%	3,279
		11.0	1.81	CONTRIB	0.00%	0.00%	23.34%	75.74%	0.92%	595
11				RATIOS	0.3326	0.5760	0.6500	1.1880	0.6866	

	13.3			CONTRIB	0.00%	21.42%	34.90%	36.84%	6.84%	3,280
		11.0	21.40	CONTRIB	0.02%	23.66%	42.87%	26.75%	6.71%	7,018
12				RATIOS	0.3854	0.6316	0.8384	0.6400	0.6238	
	15.1			CONTRIB	0.00%	18.29%	79.26%	0.77%	1.68%	3,282
		11.0	24.19	CONTRIB	0.42%	24.41%	68.10%	2.64%	4.43%	7,934
13				RATIOS	0.2828	0.4136	0.5686	0.5544	0.4548	
	10.3			CONTRIB	0.00%	14.87%	78.48%	3.79%	2.86%	3,280
		11.0	6.40	CONTRIB	0.00%	13.21%	80.30%	3.79%	2.69%	2,100
14				RATIOS	0.3078	0.2972	0.4898	0.4402	0.3837	
	8.5			CONTRIB	1.56%	4.71%	87.42%	3.00%	3.31%	3,280
		11.0	1.94	CONTRIB	0.00%	0.36%	95.88%	2.77%	0.99%	637
15				RATIOS	0.3170	0.4262	0.4814	0.6550	0.4699	
	9.3			CONTRIB	0.70%	27.30%	50.64%	15.39%	5.96%	3,280
		11.0	3.73	CONTRIB	0.00%	29.29%	44.33%	20.02%	6.35%	1,225
16				RATIOS	0.3752	0.5766	0.9782	1.0196	0.7374	
	17.0			CONTRIB	0.00%	3.49%	86.10%	7.83%	2.58%	3,288
		11.0	33.53	CONTRIB	0.22%	15.17%	66.69%	12.60%	5.32%	10,996
17				RATIOS	0.3406	0.5074	0.6040	0.7072	0.5398	
	11.4			CONTRIB	0.02%	24.47%	61.37%	9.88%	4.26%	3,280
		11.0	12.27	CONTRIB	0.18%	23.30%	63.18%	9.13%	4.21%	4,023
18				RATIOS	0.2738	0.3434	0.6476	0.9320	0.5492	
	11.9			CONTRIB	0.00%	0.28%	73.10%	22.95%	3.67%	3,280
		11.0	12.86	CONTRIB	0.00%	1.14%	70.72%	23.71%	4.43%	4,218
19				RATIOS	0.3516	0.5938	1.0740	1.3546	0.8435	
	19.2			CONTRIB	0.00%	1.17%	80.49%	15.59%	2.75%	3,283
		11.0	38.63	CONTRIB	0.09%	13.97%	61.66%	17.32%	6.96%	12,669
20				RATIOS	0.5094	0.5504	0.7048	0.8192	0.6459	
	13.2			CONTRIB	3.10%	18.08%	63.91%	9.84%	5.07%	3,280
		11.0	19.30	CONTRIB	5.32%	21.36%	57.25%	9.89%	6.17%	6,331
61				RATIOS	0.1932	0.3318	0.6968	0.9480	0.5424	
	12.7			CONTRIB	0.00%	0.04%	78.02%	19.52%	2.42%	3,280
		11.0	14.61	CONTRIB	0.00%	0.49%	73.67%	22.20%	3.63%	4,792
62				RATIOS	0.2658	0.5164	0.7408	1.1850	0.6770	
	14.1			CONTRIB	0.00%	6.92%	58.53%	29.91%	4.64%	3,280
		11.0	22.57	CONTRIB	0.00%	13.71%	54.91%	25.29%	6.09%	7,401
63				RATIOS	0.2304	0.2864	0.4836	0.5338	0.3835	
	8.5			CONTRIB	0.00%	3.22%	83.45%	10.16%	3.17%	3,280
		11.0	1.92	CONTRIB	0.00%	0.17%	89.03%	9.80%	0.99%	629
64				RATIOS	0.3278	0.4384	0.3506	0.3226	0.3598	
	7.5			CONTRIB	7.48%	60.79%	26.26%	0.87%	4.60%	3,280
		11.0	1.41	CONTRIB	0.11%	98.75%	0.69%	0.03%	0.42%	463
65				RATIOS	0.3514	0.4648	0.6460	0.7880	0.5625	
	11.9			CONTRIB	0.01%	11.70%	71.65%	12.46%	4.18%	3,280
		11.0	13.31	CONTRIB	0.26%	14.45%	67.94%	12.46%	4.89%	4,366
70				RATIOS	0.3888	0.5970	0.4996	0.3412	0.4566	
	10.3			CONTRIB	2.51%	60.20%	34.18%	0.13%	2.98%	3,280
		11.0	7.87	CONTRIB	1.42%	69.11%	27.07%	0.09%	2.31%	2,581
71				RATIOS	0.5060	0.7418	0.9730	0.6894	0.7275	
	17.6			CONTRIB	0.00%	19.05%	78.76%	0.47%	1.72%	3,280
		11.0	33.47	CONTRIB	2.95%	22.32%	66.56%	3.05%	5.11%	10,978
74				RATIOS	0.2962	0.5288	0.6976	0.7476	0.5675	
	12.8			CONTRIB	0.00%	17.31%	73.26%	6.52%	2.91%	3,280
		11.0	16.29	CONTRIB	0.00%	21.13%	66.25%	8.41%	4.20%	5,343
75				RATIOS	0.2252	0.3268	0.4490	0.6248	0.4064	
	8.4			CONTRIB	0.00%	11.37%	64.79%	19.04%	4.79%	3,280

		11.0	1.58	CONTRIB	0.00%	3.28%	59.77%	34.40%	2.55%	518
76				RATIOS	0.2892	0.4456	0.6330	0.6420	0.5024	
	11.4			CONTRIB	0.00%	12.02%	79.91%	5.21%	2.86%	3,280
		11.0	11.22	CONTRIB	0.00%	14.18%	76.92%	5.82%	3.08%	3,680
81				RATIOS	0.3396	0.5766	0.5316	0.6382	0.5215	
	10.9			CONTRIB	0.27%	52.71%	35.58%	6.86%	4.59%	3,280
		11.0	9.41	CONTRIB	0.19%	54.05%	34.56%	6.67%	4.53%	3,086
82				RATIOS	0.3270	0.4120	0.5488	0.6736	0.4903	
	10.2			CONTRIB	0.36%	15.53%	67.22%	12.31%	4.59%	3,279
		11.0	6.06	CONTRIB	0.02%	13.50%	66.62%	14.89%	4.97%	1,989

One Rincon Hill
San Francisco, California

Cumulative #3
Wind Test Date: 14 July 2004

The ratios of pedestrian-level wind speeds to the 132-ft. height reference wind speeds at the old Civic Center meteorological station are shown in the first line of output for each location.

The second line of the output shows the pedestrian level wind speeds, in mph, which would be exceeded 10% of the time for each measurement location. Section 148 of the Planning Code sets comfort criteria of 11 mph for areas of substantial public pedestrian use and 7 mph for public seating areas. These criteria are not to be exceeded more than 10% of the time.

The third line of output for each location shows the criterion speed and the percentage of the time the criterion would be exceeded. The rows labeled CONTRIB tabulate the percentage contribution to the total or the exceedance from each wind direction. The SUMs are the equivalent number of events.

Location	10.0% Exc. Ground Speed	---Criterion--- Speed Exc.	% Time Exc.		NW	WNW	W	WSW	OTHER	SUM
				Profile Ratios:	2.0000	2.0000	2.0000	2.0000	2.0000	
1				RATIOS	0.4328	0.5362	0.6510	0.7712	0.5978	
	12.3			CONTRIB	1.09%	22.36%	61.28%	10.31%	4.95%	3,280
		11.0	15.71	CONTRIB	2.48%	23.33%	58.60%	9.76%	5.83%	5,153
2				RATIOS	0.5684	0.8074	1.1240	1.0422	0.8855	
	20.2			CONTRIB	0.00%	14.40%	79.99%	2.86%	2.76%	3,284
		11.0	42.62	CONTRIB	4.48%	19.84%	57.63%	10.74%	7.32%	13,978
3				RATIOS	0.2322	0.2540	0.2880	0.6088	0.3457	
	6.3			CONTRIB	1.89%	15.80%	22.77%	49.75%	9.78%	3,279
		11.0	0.46	CONTRIB	0.00%	0.00%	0.00%	99.90%	0.10%	150
4				RATIOS	0.4158	0.5410	0.6780	0.7080	0.5857	
	12.6			CONTRIB	0.53%	21.04%	69.35%	5.19%	3.89%	3,280
		11.0	16.11	CONTRIB	1.52%	23.68%	62.75%	6.98%	5.07%	5,284
5				RATIOS	0.2184	0.2642	0.4524	0.9854	0.4801	
	9.2			CONTRIB	0.00%	0.24%	36.03%	56.53%	7.20%	3,280
		11.0	5.02	CONTRIB	0.00%	0.00%	20.24%	74.43%	5.34%	1,645
6				RATIOS	0.6334	0.8504	0.7152	0.3794	0.6446	
	14.8			CONTRIB	6.49%	58.92%	31.98%	0.00%	2.61%	3,280
		11.0	24.16	CONTRIB	9.96%	37.76%	47.31%	0.07%	4.90%	7,923
7				RATIOS	0.2706	0.3014	0.9026	1.4436	0.7295	
	16.8			CONTRIB	0.00%	0.00%	65.65%	31.79%	2.56%	3,280
		11.0	28.48	CONTRIB	0.00%	0.03%	68.56%	25.35%	6.06%	9,339
8				RATIOS	0.3584	0.5098	0.8384	0.9898	0.6741	
	15.0			CONTRIB	0.00%	3.60%	80.88%	12.35%	3.17%	3,282
		11.0	24.59	CONTRIB	0.18%	11.87%	67.00%	15.43%	5.52%	8,064
9				RATIOS	0.3550	0.5858	0.9462	1.0430	0.7325	
	16.7			CONTRIB	0.00%	4.58%	82.72%	9.99%	2.71%	3,285
		11.0	33.43	CONTRIB	0.12%	15.83%	65.10%	13.73%	5.23%	10,963
10				RATIOS	0.2678	0.3678	0.5912	0.9774	0.5510	
	11.2			CONTRIB	0.00%	2.61%	58.50%	33.71%	5.18%	3,279
		11.0	11.22	CONTRIB	0.00%	2.76%	59.76%	32.31%	5.17%	3,679
11				RATIOS	0.3404	0.5538	0.7044	1.2356	0.7085	

	13.9			CONTRIB	0.00%	13.59%	44.14%	35.97%	6.30%	3,280
		11.0	22.88	CONTRIB	0.09%	18.53%	48.25%	26.22%	6.90%	7,502
12				RATIOS	0.2946	0.4120	0.7190	0.6018	0.5068	
	12.1			CONTRIB	0.00%	3.54%	92.32%	2.18%	1.97%	3,281
		11.0	13.17	CONTRIB	0.00%	6.21%	87.83%	3.20%	2.75%	4,320
13				RATIOS	0.2296	0.3490	0.4770	0.4602	0.3789	
	8.6			CONTRIB	0.00%	15.49%	78.28%	3.50%	2.74%	3,280
		11.0	1.84	CONTRIB	0.00%	10.74%	84.48%	3.89%	0.89%	604
14				RATIOS	0.2808	0.3754	0.4082	0.3200	0.3461	
	7.7			CONTRIB	1.52%	35.83%	58.93%	0.66%	3.07%	3,279
		11.0	0.75	CONTRIB	0.00%	49.18%	50.71%	0.04%	0.07%	246
15				RATIOS	0.3256	0.3716	0.4402	0.6632	0.4501	
	8.6			CONTRIB	2.45%	21.12%	47.54%	21.54%	7.35%	3,280
		11.0	2.09	CONTRIB	0.05%	16.22%	37.50%	38.99%	7.23%	684
16				RATIOS	0.5622	0.5466	0.9304	1.0864	0.7814	
	16.6			CONTRIB	0.67%	2.67%	80.76%	11.85%	4.04%	3,286
		11.0	34.00	CONTRIB	5.28%	11.76%	61.57%	15.14%	6.26%	11,151
17				RATIOS	0.4910	0.4810	0.7516	0.9776	0.6753	
	13.8			CONTRIB	1.21%	4.42%	73.36%	15.92%	5.08%	3,280
		11.0	20.88	CONTRIB	3.99%	10.75%	61.35%	17.37%	6.53%	6,849
18				RATIOS	0.2944	0.3670	0.6444	0.9318	0.5594	
	11.9			CONTRIB	0.00%	1.19%	71.61%	23.09%	4.11%	3,280
		11.0	12.98	CONTRIB	0.00%	2.34%	69.30%	23.49%	4.86%	4,256
19				RATIOS	0.3710	0.6144	0.9398	1.0746	0.7499	
	16.9			CONTRIB	0.00%	6.40%	79.85%	10.79%	2.95%	3,287
		11.0	34.12	CONTRIB	0.19%	16.63%	62.79%	14.89%	5.50%	11,190
20				RATIOS	0.5218	0.6556	0.5196	0.9078	0.6512	
	12.2			CONTRIB	6.41%	53.31%	13.40%	18.77%	8.11%	3,280
		11.0	14.19	CONTRIB	8.29%	43.95%	19.62%	19.54%	8.60%	4,654
61				RATIOS	0.2390	0.2790	0.5998	0.9136	0.5078	
	11.1			CONTRIB	0.00%	0.00%	69.15%	27.37%	3.47%	3,279
		11.0	10.60	CONTRIB	0.00%	0.01%	69.77%	26.76%	3.46%	3,477
62				RATIOS	0.3106	0.4040	0.6788	0.9034	0.5742	
	12.4			CONTRIB	0.00%	2.49%	76.12%	17.65%	3.74%	3,280
		11.0	14.28	CONTRIB	0.00%	4.84%	70.97%	19.07%	5.12%	4,684
63				RATIOS	0.3302	0.3086	0.8692	0.6866	0.5486	
	14.3			CONTRIB	0.00%	0.00%	97.61%	1.74%	0.65%	3,284
		11.0	19.49	CONTRIB	0.01%	0.08%	91.84%	5.16%	2.90%	6,392
64				RATIOS	0.3362	0.4378	0.4352	0.3206	0.3824	
	8.5			CONTRIB	3.92%	45.99%	46.64%	0.36%	3.09%	3,280
		11.0	2.11	CONTRIB	0.44%	65.37%	33.30%	0.01%	0.87%	691
65				RATIOS	0.3124	0.3314	0.5428	0.8286	0.5038	
	10.1			CONTRIB	0.15%	2.54%	65.07%	26.71%	5.53%	3,280
		11.0	6.16	CONTRIB	0.00%	1.13%	60.86%	32.32%	5.70%	2,020
70				RATIOS	0.2176	0.3708	0.4694	0.4430	0.3752	
	8.6			CONTRIB	0.00%	20.92%	73.65%	2.78%	2.65%	3,280
		11.0	1.80	CONTRIB	0.00%	18.49%	77.59%	3.12%	0.80%	589
71				RATIOS	0.4934	0.7596	0.9140	0.6022	0.6923	
	16.8			CONTRIB	0.01%	25.95%	72.18%	0.24%	1.62%	3,280
		11.0	30.58	CONTRIB	2.80%	25.29%	65.71%	1.39%	4.81%	10,030
74				RATIOS	0.2834	0.5108	0.7076	0.8758	0.5944	
	13.0			CONTRIB	0.00%	11.99%	71.48%	13.12%	3.41%	3,280
		11.0	17.42	CONTRIB	0.00%	16.91%	64.03%	13.97%	5.09%	5,713
75				RATIOS	0.2444	0.3460	0.5024	0.5662	0.4147	
	9.1			CONTRIB	0.00%	9.03%	77.82%	9.81%	3.34%	3,280

		11.0	2.72	CONTRIB	0.00%	6.33%	81.45%	10.29%	1.93%	891
76				RATIOS	0.2844	0.4234	0.5760	0.7314	0.5038	
	10.7			CONTRIB	0.00%	13.28%	68.52%	14.07%	4.13%	3,279
		11.0	8.26	CONTRIB	0.00%	12.51%	67.93%	15.31%	4.24%	2,710
81				RATIOS	0.3356	0.4320	0.4182	0.2638	0.3624	
	8.3			CONTRIB	4.77%	49.26%	43.20%	0.09%	2.68%	3,280
		11.0	1.72	CONTRIB	0.47%	71.20%	27.80%	0.00%	0.53%	566
82				RATIOS	0.2480	0.3944	0.7082	0.5884	0.4847	
	11.9			CONTRIB	0.00%	2.90%	93.50%	2.15%	1.44%	3,280
		11.0	12.38	CONTRIB	0.00%	4.55%	90.24%	2.93%	2.28%	4,061

WIND-TUNNEL TEST RESULTS 07/15/04

One Rincon Hill
San Francisco, California

Existing Setting
Wind Test Date: 14 July 2004

The ratios of pedestrian-level wind speeds to the 132-ft. height reference wind speeds at the old Civic Center meteorological station are shown in the first line of output for each location.

The second line of the output shows the pedestrian level wind speeds, in mph, which would be exceeded one hour per year (0.01141552512% of the time) for each measurement location tested.
Section 148 of the Planning Code sets a wind hazard criterion that an hourly average speed of 26 mph for a full hour (a one-minute average speed of 36 mph) not be reached or exceeded one hour per year.

The third line of output for each location shows the criterion speed and the percentage of the time the criterion would be exceeded. The rows labeled CONTRIB tabulate the percentage contribution to the total or the exceedance from each wind direction. The SUMs are the equivalent number of events.

Loca-tion	0.011415% Exc. Ground Speed	---Criterion--- Speed Exc.	% Time Exc.		NW	WNW	W	WSW	OTHER	SUM
				Profile Ratios:	2.0000	2.0000	2.0000	2.0000	2.0000	
1				RATIOS	0.5036	0.5160	0.6516	0.4516	0.5307	
	20.4			CONTRIB	0.00%	5.33%	94.67%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
2				RATIOS	0.0000	0.0000	0.0000	0.0000	0.0000	
	36.0			CONTRIB	10.20%	14.22%	35.89%	11.54%	28.15%	32,795
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
3				RATIOS	0.0000	0.0000	0.0000	0.0000	0.0000	
	36.0			CONTRIB	10.20%	14.22%	35.89%	11.54%	28.15%	32,795
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
4				RATIOS	0.0000	0.0000	0.0000	0.0000	0.0000	
	36.0			CONTRIB	10.20%	14.22%	35.89%	11.54%	28.15%	32,795
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
5				RATIOS	0.0000	0.0000	0.0000	0.0000	0.0000	
	36.0			CONTRIB	10.20%	14.22%	35.89%	11.54%	28.15%	32,795
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
6				RATIOS	0.0000	0.0000	0.0000	0.0000	0.0000	
	36.0			CONTRIB	10.20%	14.22%	35.89%	11.54%	28.15%	32,795
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
7				RATIOS	0.3932	0.4084	0.7788	0.9982	0.6446	
	30.4			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000123	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	0
8				RATIOS	0.3426	0.4144	0.6320	0.8152	0.5510	
	24.8			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
9				RATIOS	0.4900	0.6226	0.7604	0.6526	0.6314	
	23.9			CONTRIB	0.00%	28.56%	71.40%	0.04%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
10				RATIOS	0.4618	0.5604	0.8208	0.6966	0.6349	
	25.7			CONTRIB	0.00%	0.00%	99.97%	0.02%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
11				RATIOS	0.3996	0.3320	0.4626	0.7778	0.4930	
	23.7			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0

12				RATIOS	0.4346	0.6332	0.9302	0.5020	0.6250	
	29.1			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
13				RATIOS	0.3700	0.4728	0.6676	0.3660	0.4691	
	20.9			CONTRIB	0.00%	0.01%	99.99%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
14				RATIOS	0.3392	0.3506	0.4182	0.3222	0.3575	
	13.2			CONTRIB	0.00%	43.78%	56.22%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
15				RATIOS	0.3872	0.3692	0.4648	0.5322	0.4383	
	16.2			CONTRIB	0.00%	0.01%	0.03%	99.96%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
16				RATIOS	0.3904	0.4660	0.6716	0.6888	0.5542	
	21.5			CONTRIB	0.00%	0.00%	19.07%	80.92%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
17				RATIOS	0.3396	0.3132	0.5290	0.7656	0.4868	
	23.3			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
18				RATIOS	0.3142	0.4704	1.0682	0.7840	0.6592	
	33.4			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4
		36.0	0.0000392	CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	0
19				RATIOS	0.3186	0.3590	0.5258	0.4342	0.4094	
	16.5			CONTRIB	0.00%	0.00%	99.99%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
20				RATIOS	0.5118	0.6152	0.8736	0.5744	0.6437	
	27.3			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
61				RATIOS	0.2348	0.1708	0.3778	0.7668	0.3875	
	23.3			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
62				RATIOS	0.2456	0.3406	0.3794	0.7200	0.4214	
	21.9			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
63				RATIOS	0.2978	0.2516	0.3960	0.6500	0.3988	
	19.8			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
64				RATIOS	0.3918	0.3934	0.2380	0.2742	0.3243	
	14.2			CONTRIB	0.06%	99.94%	0.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
65				RATIOS	0.4078	0.4650	0.7906	1.2478	0.7278	
	37.9			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0182114	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	6
70				RATIOS	0.2992	0.5406	0.4266	0.2956	0.3905	
	19.5			CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
71				RATIOS	0.4600	0.7456	1.0760	0.7418	0.7558	
	33.7			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4
		36.0	0.0000686	CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	0
74				RATIOS	0.3228	0.4672	0.6124	0.4750	0.4693	
	19.2			CONTRIB	0.00%	0.58%	99.42%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
75				RATIOS	0.3406	0.3318	0.5026	0.5322	0.4268	
	16.3			CONTRIB	0.00%	0.00%	6.33%	93.67%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0

76				RATIOS	0.3510	0.5054	0.6872	0.6132	0.5392	
	21.5			CONTRIB	0.00%	0.06%	99.31%	0.63%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
81				RATIOS	0.3116	0.5086	0.3560	0.5516	0.4319	
	18.5			CONTRIB	0.00%	88.76%	0.00%	11.24%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
82				RATIOS	0.3366	0.3602	0.3696	0.3958	0.3655	
	13.2			CONTRIB	0.00%	80.83%	0.00%	19.16%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0

One Rincon Hill
San Francisco, California

Project in Existing Setting
Wind Test Date: 14 July 2004

The ratios of pedestrian-level wind speeds to the 132-ft. height reference wind speeds at the old Civic Center meteorological station are shown in the first line of output for each location.

The second line of the output shows the pedestrian level wind speeds, in mph, which would be exceeded one hour per year (0.01141552512% of the time) for each measurement location tested.
Section 148 of the Planning Code sets a wind hazard criterion that an hourly average speed of 26 mph for a full hour (a one-minute average speed of 36 mph) not be reached or exceeded one hour per year.

The third line of output for each location shows the criterion speed and the percentage of the time the criterion would be exceeded. The rows labeled CONTRIB tabulate the percentage contribution to the total or the exceedance from each wind direction. The SUMs are the equivalent number of events.

Location	0.011415% Exc. Ground Speed	Criterion Speed Exc.	Criterion % Time Exc.		NW	WNW	W	WSW	OTHER	SUM
				Profile Ratios:	2.0000	2.0000	2.0000	2.0000	2.0000	
1				RATIOS	0.4230	0.5482	0.4772	0.4726	0.4802	
	19.8			CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
2				RATIOS	0.5064	0.8692	1.2728	1.4606	1.0272	
	44.5			CONTRIB	0.00%	0.00%	0.02%	99.98%	0.00%	4
		36.0	0.2985810	CONTRIB	0.00%	0.01%	80.30%	19.68%	0.00%	98
3				RATIOS	0.2574	0.2138	0.2650	0.5262	0.3156	
	16.0			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
4				RATIOS	0.5214	0.6204	0.6644	0.5516	0.5894	
	22.4			CONTRIB	0.00%	99.71%	0.29%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
5				RATIOS	0.2142	0.5602	1.5332	1.6428	0.9876	
	50.2			CONTRIB	0.00%	0.00%	3.04%	96.96%	0.00%	4
		36.0	1.5010600	CONTRIB	0.00%	0.00%	91.63%	8.37%	0.00%	492
6				RATIOS	0.6298	0.9496	0.7654	0.5810	0.7314	
	34.4			CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	4
		36.0	0.0042731	CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	1
7				RATIOS	0.3356	0.6170	1.0622	1.5094	0.8810	
	46.0			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0727062	CONTRIB	0.00%	0.00%	0.03%	99.97%	0.00%	24
8				RATIOS	0.2792	0.3912	0.6620	0.7220	0.5136	
	22.0			CONTRIB	0.00%	0.00%	1.06%	98.94%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
9				RATIOS	0.4082	0.5924	0.6654	0.4718	0.5344	
	21.5			CONTRIB	0.00%	91.86%	8.14%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
10				RATIOS	0.2500	0.5618	0.6778	0.5724	0.5155	
	21.3			CONTRIB	0.00%	35.79%	64.19%	0.01%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
11				RATIOS	0.3390	0.3262	0.6052	0.8078	0.5195	

	24.6			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
12				RATIOS	0.3316	0.5618	0.8024	0.4766	0.5431	
	25.1			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
13				RATIOS	0.3498	0.4550	0.6168	0.3598	0.4453	
	19.3			CONTRIB	0.00%	0.07%	99.92%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
14				RATIOS	0.3768	0.3588	0.4674	0.2514	0.3636	
	14.6			CONTRIB	0.00%	0.84%	99.16%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
15				RATIOS	0.3828	0.4002	0.4938	0.6416	0.4796	
	19.5			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
16				RATIOS	0.3014	0.4190	0.5666	0.4996	0.4466	
	17.7			CONTRIB	0.00%	0.09%	99.62%	0.29%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
17				RATIOS	0.3360	0.3318	0.4866	0.6276	0.4455	
	19.1			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
18				RATIOS	0.3476	0.3530	0.7098	0.7466	0.5392	
	23.0			CONTRIB	0.00%	0.00%	7.72%	92.28%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
19				RATIOS	0.3690	0.7144	1.2052	1.4094	0.9245	
	42.9			CONTRIB	0.00%	0.00%	0.01%	99.99%	0.00%	4
		36.0	0.1890960	CONTRIB	0.00%	0.00%	75.32%	24.68%	0.00%	62
20				RATIOS	0.4848	0.7488	0.6196	0.5562	0.6023	
	27.1			CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
61				RATIOS	0.3854	0.3878	0.8186	1.0176	0.6523	
	31.0			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000423	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	0
62				RATIOS	0.3352	0.5770	0.8322	0.9136	0.6645	
	27.8			CONTRIB	0.00%	0.00%	0.62%	99.38%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	0
63				RATIOS	0.3116	0.4186	1.0372	0.5646	0.5830	
	32.5			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4
		36.0	0.0000041	CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	0
64				RATIOS	0.3654	0.4084	0.2796	0.2212	0.3186	
	14.8			CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
65				RATIOS	0.3722	0.5064	1.0562	0.6634	0.6495	
	33.1			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4
		36.0	0.0000164	CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	0
70				RATIOS	0.2906	0.4844	0.3790	0.3014	0.3638	
	17.5			CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
71				RATIOS	0.4104	0.6886	0.9902	0.7474	0.7091	
	31.0			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4
		36.0	0.0000001	CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	0
74				RATIOS	0.2268	0.4378	0.6746	0.6580	0.4993	
	21.4			CONTRIB	0.00%	0.00%	42.74%	57.26%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
75				RATIOS	0.2740	0.3508	0.5066	0.3852	0.3791	
	15.9			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4

		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
76				RATIOS	0.3786	0.4894	0.6506	0.4682	0.4967	
	20.4			CONTRIB	0.00%	0.24%	99.75%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
81				RATIOS	0.3256	0.4028	0.5412	0.4196	0.4223	
	16.9			CONTRIB	0.00%	0.13%	99.87%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
82				RATIOS	0.4266	0.5506	0.6940	0.6410	0.5780	
	21.8			CONTRIB	0.00%	5.66%	89.08%	5.25%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0

WIND-TUNNEL TEST RESULTS 07/15/04

One Rincon Hill
San Francisco, California

Cumulative #1
Wind Test Date: 14 July 2004

The ratios of pedestrian-level wind speeds to the 132-ft. height reference wind speeds at the old Civic Center meteorological station are shown in the first line of output for each location.

The second line of the output shows the pedestrian level wind speeds, in mph, which would be exceeded one hour per year (0.01141552512% of the time) for each measurement location tested.
Section 148 of the Planning Code sets a wind hazard criterion that an hourly average speed of 26 mph for a full hour (a one-minute average speed of 36 mph) not be reached or exceeded one hour per year.

The third line of output for each location shows the criterion speed and the percentage of the time the criterion would be exceeded. The rows labeled CONTRIB tabulate the percentage contribution to the total or the exceedance from each wind direction. The SUMs are the equivalent number of events.

Location	0.011415% Exc. Ground Speed	Criterion Speed Exc.	Criterion % Time Exc.		NW	WNW	W	WSW	OTHER	SUM
				Profile Ratios:	2.0000	2.0000	2.0000	2.0000	2.0000	
1				RATIOS	0.4236	0.5896	0.6014	0.5878	0.5506	
	21.3			CONTRIB	0.00%	99.92%	0.01%	0.07%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
2				RATIOS	0.4832	0.8444	1.1224	1.3996	0.9624	
	42.6			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0463860	CONTRIB	0.00%	0.01%	3.82%	96.16%	0.00%	15
3				RATIOS	0.1988	0.2098	0.4194	0.6004	0.3571	
	18.3			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
4				RATIOS	0.4536	0.5616	0.6640	0.7380	0.6043	
	22.5			CONTRIB	0.00%	2.35%	0.21%	97.44%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
5				RATIOS	0.3086	0.4416	1.1308	0.7292	0.6525	
	35.4			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4
		36.0	0.0031499	CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	1
6				RATIOS	0.6564	0.8768	0.6572	0.7496	0.7350	
	31.7			CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	4
		36.0	0.0000640	CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	0
7				RATIOS	0.3432	0.4592	1.0076	1.4892	0.8248	
	45.3			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0666199	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	22
8				RATIOS	0.3552	0.5288	0.6910	0.8414	0.6041	
	25.6			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
9				RATIOS	0.5520	0.7392	0.6852	0.8456	0.7055	
	27.7			CONTRIB	0.00%	47.46%	0.00%	52.54%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
10				RATIOS	0.5874	0.7288	0.6418	1.0890	0.7617	
	33.1			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0033168	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	1
11				RATIOS	0.3806	0.3796	0.4720	0.9950	0.5568	

	30.3			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000100	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	0
12				RATIOS	0.4036	0.5758	0.8504	0.6512	0.6202	
	26.6			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
13				RATIOS	0.3672	0.4602	0.6670	0.5170	0.5028	
	20.9			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
14				RATIOS	0.3534	0.2900	0.5036	0.3990	0.3865	
	15.8			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
15				RATIOS	0.3672	0.4192	0.4894	0.7338	0.5024	
	22.3			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
16				RATIOS	0.3856	0.5702	0.9950	1.1240	0.7687	
	34.2			CONTRIB	0.00%	0.00%	0.07%	99.93%	0.00%	4
		36.0	0.0073856	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	2
17				RATIOS	0.4018	0.5166	0.7276	1.1346	0.6951	
	34.5			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0080091	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	3
18				RATIOS	0.3106	0.4042	0.6920	0.7718	0.5446	
	23.5			CONTRIB	0.00%	0.00%	0.20%	99.80%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
19				RATIOS	0.4136	0.6608	1.1450	1.4020	0.9053	
	42.7			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0533383	CONTRIB	0.00%	0.00%	15.44%	84.56%	0.00%	17
20				RATIOS	0.4794	0.5502	0.7998	0.5318	0.5903	
	25.0			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
61				RATIOS	0.2390	0.3430	0.4974	0.9698	0.5123	
	29.5			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000019	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	0
62				RATIOS	0.2762	0.5902	0.9000	0.9800	0.6866	
	29.9			CONTRIB	0.00%	0.00%	1.10%	98.90%	0.00%	4
		36.0	0.0000038	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	0
63				RATIOS	0.3680	0.5902	0.4496	0.3908	0.4496	
	21.4			CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
64				RATIOS	0.3666	0.4548	0.3506	0.3236	0.3739	
	16.4			CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
65				RATIOS	0.3782	0.3032	0.6634	1.0860	0.6077	
	33.1			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0027776	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	1
70				RATIOS	0.3790	0.4786	0.4368	0.3140	0.4021	
	17.3			CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
71				RATIOS	0.5516	0.7748	1.1424	0.8834	0.8380	
	35.8			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4
		36.0	0.0069134	CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	2
74				RATIOS	0.3486	0.4946	0.7018	0.5244	0.5173	
	22.0			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
75				RATIOS	0.3840	0.3560	0.4550	0.4236	0.4046	
	14.3			CONTRIB	0.01%	2.43%	88.81%	8.74%	0.01%	4

		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
76				RATIOS	0.3884	0.4454	0.5350	0.4494	0.4545	
	16.9			CONTRIB	0.00%	38.86%	61.13%	0.01%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
81				RATIOS	0.4310	0.5156	0.2866	0.5046	0.4344	
	18.6			CONTRIB	0.00%	99.98%	0.00%	0.02%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
82				RATIOS	0.3368	0.4522	0.5772	0.7082	0.5186	
	21.6			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0

One Rincon Hill
San Francisco, California

Cumulative #2
Wind Test Date: 14 July 2004

The ratios of pedestrian-level wind speeds to the 132-ft. height reference wind speeds at the old Civic Center meteorological station are shown in the first line of output for each location.

The second line of the output shows the pedestrian level wind speeds, in mph, which would be exceeded one hour per year (0.01141552512% of the time) for each measurement location tested.
Section 148 of the Planning Code sets a wind hazard criterion that an hourly average speed of 26 mph for a full hour (a one-minute average speed of 36 mph) not be reached or exceeded one hour per year.

The third line of output for each location shows the criterion speed and the percentage of the time the criterion would be exceeded. The rows labeled CONTRIB tabulate the percentage contribution to the total or the exceedance from each wind direction. The SUMs are the equivalent number of events.

	0.011415% Exc.	---Criterion---								
Location	Ground Speed	Speed Exc.	% Time Exc.		NW	WNW	W	WSW	OTHER	SUM
			Profile	Ratios:	2.0000	2.0000	2.0000	2.0000	2.0000	
1				RATIOS	0.4272	0.4766	0.5128	0.6634	0.5200	
	20.2			CONTRIB	0.00%	0.08%	0.00%	99.92%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
2				RATIOS	0.5198	0.8912	1.0598	1.5246	0.9988	
	46.4			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0777384	CONTRIB	0.00%	0.22%	0.03%	99.75%	0.00%	25
3				RATIOS	0.2004	0.2052	0.2444	0.4294	0.2698	
	13.1			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
4				RATIOS	0.4142	0.5074	0.6826	0.7824	0.5966	
	23.8			CONTRIB	0.00%	0.00%	0.02%	99.98%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
5				RATIOS	0.2498	0.3590	1.0412	0.6662	0.5790	
	32.6			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4
		36.0	0.0000055	CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	0
6				RATIOS	0.6340	0.8550	0.6610	0.7060	0.7140	
	30.9			CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	4
		36.0	0.0000139	CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	0
7				RATIOS	0.2516	0.3490	1.0348	1.4682	0.7759	
	44.7			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0607782	CONTRIB	0.00%	0.00%	0.01%	99.99%	0.00%	20
8				RATIOS	0.3374	0.4158	0.6540	0.7970	0.5510	
	24.3			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
9				RATIOS	0.2730	0.5296	0.7066	0.7944	0.5759	
	24.2			CONTRIB	0.00%	0.00%	0.11%	99.89%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
10				RATIOS	0.1632	0.1938	0.4128	0.7482	0.3795	
	22.8			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
11				RATIOS	0.3326	0.5760	0.6500	1.1880	0.6866	

	36.2			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0119154	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
12				RATIOS	0.3854	0.6316	0.8384	0.6400	0.6238	
	26.2			CONTRIB	0.00%	0.27%	99.73%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
13				RATIOS	0.2828	0.4136	0.5686	0.5544	0.4548	
	18.0			CONTRIB	0.00%	0.02%	42.38%	57.60%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
14				RATIOS	0.3078	0.2972	0.4898	0.4402	0.3837	
	15.3			CONTRIB	0.00%	0.00%	99.01%	0.99%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
15				RATIOS	0.3170	0.4262	0.4814	0.6550	0.4699	
	20.0			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
16				RATIOS	0.3752	0.5766	0.9782	1.0196	0.7374	
	31.5			CONTRIB	0.00%	0.00%	11.75%	88.25%	0.00%	4
		36.0	0.0000480	CONTRIB	0.00%	0.00%	0.09%	99.91%	0.00%	0
17				RATIOS	0.3406	0.5074	0.6040	0.7072	0.5398	
	21.5			CONTRIB	0.00%	0.08%	0.00%	99.92%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
18				RATIOS	0.2738	0.3434	0.6476	0.9320	0.5492	
	28.4			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000001	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	0
19				RATIOS	0.3516	0.5938	1.0740	1.3546	0.8435	
	41.3			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0361705	CONTRIB	0.00%	0.00%	0.16%	99.84%	0.00%	12
20				RATIOS	0.5094	0.5504	0.7048	0.8192	0.6459	
	24.9			CONTRIB	0.00%	0.00%	0.01%	99.99%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
61				RATIOS	0.1932	0.3318	0.6968	0.9480	0.5424	
	28.9			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000004	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	0
62				RATIOS	0.2658	0.5164	0.7408	1.1850	0.6770	
	36.1			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0116580	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
63				RATIOS	0.2304	0.2864	0.4836	0.5338	0.3835	
	16.2			CONTRIB	0.00%	0.00%	0.44%	99.56%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
64				RATIOS	0.3278	0.4384	0.3506	0.3226	0.3598	
	15.9			CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
65				RATIOS	0.3514	0.4648	0.6460	0.7880	0.5625	
	24.0			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
70				RATIOS	0.3888	0.5970	0.4996	0.3412	0.4566	
	21.6			CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
71				RATIOS	0.5060	0.7418	0.9730	0.6894	0.7275	
	30.5			CONTRIB	0.00%	0.55%	99.45%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
74				RATIOS	0.2962	0.5288	0.6976	0.7476	0.5675	
	22.9			CONTRIB	0.00%	0.02%	2.97%	97.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
75				RATIOS	0.2252	0.3268	0.4490	0.6248	0.4064	
	19.1			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4

		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
76				RATIOS	0.2892	0.4456	0.6330	0.6420	0.5024	
	20.2			CONTRIB	0.00%	0.00%	23.79%	76.21%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
81				RATIOS	0.3396	0.5766	0.5316	0.6382	0.5215	
	21.2			CONTRIB	0.00%	75.20%	0.00%	24.80%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
82				RATIOS	0.3270	0.4120	0.5488	0.6736	0.4903	
	20.5			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0

WIND-TUNNEL TEST RESULTS 07/15/04

One Rincon Hill
San Francisco, California

Cumulative #3
Wind Test Date: 14 July 2004

The ratios of pedestrian-level wind speeds to the 132-ft. height reference wind speeds at the old Civic Center meteorological station are shown in the first line of output for each location.

The second line of the output shows the pedestrian level wind speeds, in mph, which would be exceeded one hour per year (0.01141552512% of the time) for each measurement location tested.
Section 148 of the Planning Code sets a wind hazard criterion that an hourly average speed of 26 mph for a full hour (a one-minute average speed of 36 mph) not be reached or exceeded one hour per year.

The third line of output for each location shows the criterion speed and the percentage of the time the criterion would be exceeded. The rows labeled CONTRIB tabulate the percentage contribution to the total or the exceedance from each wind direction. The SUMs are the equivalent number of events.

Loca-tion	0.011415% Exc. Ground Speed	---Criterion--- Speed Exc.	% Time Exc.		NW	WNW	W	WSW	OTHER	SUM
				Profile Ratios:	2.0000	2.0000	2.0000	2.0000	2.0000	
1				RATIOS	0.4328	0.5362	0.6510	0.7712	0.5978	
	23.5			CONTRIB	0.00%	0.01%	0.00%	99.99%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
2				RATIOS	0.5684	0.8074	1.1240	1.0422	0.8855	
	35.2			CONTRIB	0.00%	0.01%	92.99%	6.99%	0.00%	4
		36.0	0.0021767	CONTRIB	0.00%	0.02%	90.95%	9.03%	0.00%	1
3				RATIOS	0.2322	0.2540	0.2880	0.6088	0.3457	
	18.5			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
4				RATIOS	0.4158	0.5410	0.6780	0.7080	0.5857	
	21.9			CONTRIB	0.00%	1.44%	10.09%	88.47%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
5				RATIOS	0.2184	0.2642	0.4524	0.9854	0.4801	
	30.0			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000053	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	0
6				RATIOS	0.6334	0.8504	0.7152	0.3794	0.6446	
	30.8			CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	4
		36.0	0.0000100	CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	0
7				RATIOS	0.2706	0.3014	0.9026	1.4436	0.7295	
	43.9			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0544867	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	18
8				RATIOS	0.3584	0.5098	0.8384	0.9898	0.6741	
	30.1			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000071	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	0
9				RATIOS	0.3550	0.5858	0.9462	1.0430	0.7325	
	31.7			CONTRIB	0.00%	0.00%	0.49%	99.51%	0.00%	4
		36.0	0.0002066	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	0
10				RATIOS	0.2678	0.3678	0.5912	0.9774	0.5510	
	29.8			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000032	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	0
11				RATIOS	0.3404	0.5538	0.7044	1.2356	0.7085	

	37.6			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0167297	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	5
12				RATIOS	0.2946	0.4120	0.7190	0.6018	0.5068	
	22.5			CONTRIB	0.00%	0.00%	99.99%	0.01%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
13				RATIOS	0.2296	0.3490	0.4770	0.4602	0.3789	
	15.1			CONTRIB	0.00%	0.03%	48.02%	51.95%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
14				RATIOS	0.2808	0.3754	0.4082	0.3200	0.3461	
	13.6			CONTRIB	0.00%	99.11%	0.89%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
15				RATIOS	0.3256	0.3716	0.4402	0.6632	0.4501	
	20.2			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
16				RATIOS	0.5622	0.5466	0.9304	1.0864	0.7814	
	33.1			CONTRIB	0.00%	0.00%	0.01%	99.99%	0.00%	4
		36.0	0.0028442	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	1
17				RATIOS	0.4910	0.4810	0.7516	0.9776	0.6753	
	29.8			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000032	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	0
18				RATIOS	0.2944	0.3670	0.6444	0.9318	0.5594	
	28.4			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000001	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	0
19				RATIOS	0.3710	0.6144	0.9398	1.0746	0.7499	
	32.8			CONTRIB	0.00%	0.00%	0.03%	99.97%	0.00%	4
		36.0	0.0014087	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	0
20				RATIOS	0.5218	0.6556	0.5196	0.9078	0.6512	
	27.7			CONTRIB	0.00%	0.10%	0.00%	99.90%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
61				RATIOS	0.2390	0.2790	0.5998	0.9136	0.5078	
	27.8			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	0
62				RATIOS	0.3106	0.4040	0.6788	0.9034	0.5742	
	27.5			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
63				RATIOS	0.3302	0.3086	0.8692	0.6866	0.5486	
	27.2			CONTRIB	0.00%	0.00%	100.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
64				RATIOS	0.3362	0.4378	0.4352	0.3206	0.3824	
	15.8			CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
65				RATIOS	0.3124	0.3314	0.5428	0.8286	0.5038	
	25.2			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
70				RATIOS	0.2176	0.3708	0.4694	0.4430	0.3752	
	14.7			CONTRIB	0.00%	3.90%	77.42%	18.69%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
71				RATIOS	0.4934	0.7596	0.9140	0.6022	0.6923	
	28.8			CONTRIB	0.00%	37.42%	62.58%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
74				RATIOS	0.2834	0.5108	0.7076	0.8758	0.5944	
	26.7			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
75				RATIOS	0.2444	0.3460	0.5024	0.5662	0.4147	
	17.2			CONTRIB	0.00%	0.00%	0.09%	99.91%	0.00%	4

		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
76				RATIOS	0.2844	0.4234	0.5760	0.7314	0.5038	
	22.3			CONTRIB	0.00%	0.00%	0.00%	100.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
81				RATIOS	0.3356	0.4320	0.4182	0.2638	0.3624	
	15.6			CONTRIB	0.00%	100.00%	0.00%	0.00%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0
82				RATIOS	0.2480	0.3944	0.7082	0.5884	0.4847	
	22.2			CONTRIB	0.00%	0.00%	99.99%	0.01%	0.00%	4
		36.0	0.0000000	CONTRIB	0.00%	0.00%	0.00%	0.00%	0.00%	0

B-2. TECHNICAL MEMORANDUM: POTENTIAL WIND CONDITIONS FOR 2 ALTERNATIVE DESIGNS OF PROJECT

TECHNICAL MEMORANDUM

TO: Dan Cohen
EDAW
150 Chestnut Street
San Francisco, CA 94111

FROM: Charles Bennett
Environmental Science Associates
225 Bush Street, Suite 1700
San Francisco, CA 94104

DATE: August 18, 2004

SUBJECT: Potential Wind Conditions for 2 Alternative Designs of the Project
Proposed One Rincon Hill Development
San Francisco, California
ESA 203078

Background

A set of wind-tunnel tests were performed for the proposed One Rincon Hill residential development project, which would be located at the corner of the full block bounded by First, Harrison, and Fremont Streets and the Bay Bridge approach, in the City of San Francisco. The test was performed in order to define the pedestrian wind environment that would exist around the proposed project. Pedestrian-level wind speeds were measured at selected points for the site as it presently exists, and with the proposed project to quantify resulting pedestrian-level winds in public spaces near the proposed project. The project design that was tested was SCB & Associates, Inc., concept plans, dated April 2, 2004. The two towers have roof heights[1] of 550 ft and 450 ft., with 42 ft. high mechanical penthouses that bring the top parapet elevations to nearly 707 ft and 590 ft., respectively.

In addition, three cumulative scenarios were tested to investigate the possible conditions that could result from the combination of the project with each of these possible future developments. The three scenarios tested were: 1) the projects currently in the Planning Department's "pipeline" of projects under review; 2) the preferred scenario for the Rincon Area Plan; and, 3) the Rincon Plan scenario of future development under the 82.5 ft. tower spacing and current height and bulk limits.

The results of the recent testing were reported in ESA Technical Memorandum #203078, dated August 12, 2004. Details of the background and test methods were presented in Section II, Background of that memorandum. Test results and discussion were presented in Section III, Study Results, and Section IV summarized the findings and conclusions.

[1] All project heights are referenced to the project zero, which is at elevation 98.3 ft. above SF Datum.

A year prior to the recent testing, a test was conducted of an earlier project design. The results of the 2003 tests were reported in an ESA Technical Memorandum, dated September 22, 2003. The design tested in 2003 included two residential towers on a 33 ft. high podium. A 34-story, 350 ft. high tower was located near the intersection of First and Harrison Streets and a 30-story, 300 ft. high tower was located near the intersection of Harrison Street off-ramp, but set back from the Harrison Street frontage.

Objective and Approach

This memorandum discusses anticipated differences in wind conditions between the April 2, 2004 project design and two project alternatives. These alternatives are referred to as the "Existing Zoning" alternative (design dated October 16, 2002) and the "Preservation" alternative (design dated April 29, 2004).

The "Existing Zoning" alternative would consist of a single 18-story tower, with a height of 200 ft. and a floor plate of 7,500 sq. ft., located at the corner of First and Harrison Streets. The tower would not be set back from First or from Harrison Streets. The rest of the "Existing Zoning" building fronting First Street would be 6-stories (85 ft.), while that fronting Harrison Street would be 8-stories (105 ft.) high.

The "Preservation" alternative would consist of a single 35-story tower, with a height of 350 ft., located at the corner of First and Harrison Streets. The tower would sit on a podium approximately 30 ft. high and would be set back from both the First and the Harrison frontages of the podium. The existing building on the site would remain.

No wind tunnel testing was performed to support this evaluation. However, the results of all of the prior wind testing, including the 2003 testing of a design with a tower placed at the corner of First and Harrison Streets, similar to that of the "Existing Zoning" and "Preservation" alternatives, were used to develop this evaluation.

Analysis and Conclusions

Conclusions from the 2003 Test

The 2003 project scenario test included the 2003 two-tower design of the project added to the setting buildings. In reviewing the 2003 test results, the following conclusions were reached. The wind effects at the intersection of First and Harrison Streets are considered to be most strongly affected by the 350 ft. tower and the street wall of the podium. The 300 ft. tower should have little influence on winds at that intersection.

The fact that the 300 ft. tower was set back from Harrison Street on the podium should reduce that tower's adverse wind effects along Harrison Street. On the other hand, the 350 ft. tower and the project's street wall along Harrison are considered to contribute to the adverse wind effects noted in the test at locations along both sides of Harrison Street. Furthermore, winds at the intersection of Fremont and Harrison Streets and the Harrison Street off-ramp are considered to be as strongly affected by the 350 ft. tower and the street wall of the podium, as by the 300 ft. tower.

Important Aspects of Alternatives

The "Existing Zoning" alternative, with a 200 ft. tower, is 150 ft. shorter than that of the 2003 project, but has higher street wall buildings that would front both Harrison and First Streets. These street wall buildings would affect the wind along Harrison Street more than would the lower podium of the 2003 project. The "Existing Zoning" alternative's 200 ft. tower is not set back from the street, so its wind effect would not be reduced. Together, these aspects may not offer some, but not necessarily substantial improvements.

The "Preservation" alternative, with a 350 ft. tower located at the corner of First and Harrison Streets, is similar in bulk to part of the 2003 project. However, the "Preservation" alternative's tower would sit on a small podium approximately 30 ft. high and would be set back from both First and Harrison Streets. The existing building on the site would remain along First Street, behind the new tower. The bulk of the tower would be the same as the 2003 project tower, but the low podium should deflect winds from the tower and limit the wind that would reach Harrison Street sidewalks adjacent to the project. Because the podium is so low, the deflected winds could still contribute to high winds across Harrison Street, however the low podium should have little capacity to direct winds along the Harrison Street frontage of the building.

Alternatives

The 2003 project improved wind conditions at three locations on First Street immediately adjacent to the project. The "Existing Zoning" alternative, with a much shorter tower and higher street wall buildings that would front both Harrison and First Streets, may not offer such improvements. The "Preservation" alternative's 350 ft. tower, should have effects similar to those of the 2003 project. However, neither alternative should materially increase wind speeds at that intersection.

The 2003 project increased wind speeds at the corners of the Fremont and Harrison Street intersection and Harrison Street off-ramp. The "Existing Zoning" alternative, with a much shorter tower and higher street wall buildings that would front Harrison Street, may result in similar wind speed increases, as would he "Preservation" alternative's 350 ft. tower.

With the 2003 project, the highest wind speed in the vicinity (18 mph) would occur downwind of the project, across Fremont Street, in at the southeast corner of Harrison and Fremont Streets. With either alternative, a similar wind speed is still likely along Harrison Street, because the higher street walls of the "Existing Zoning" alternative will continue to direct winds down Harrison and the "Preservation" alternative's 350 ft. tower will affect winds across Harrison Street.

With the 2003 project, as compared to conditions at the 36 existing locations, wind speeds would increase at 16 locations; remain unchanged at 8 locations, and decrease at 12 locations. Overall, either alternative should result in fewer wind speed increases and more wind speed decreases than the 2003 project.

The 2003 project did not create any wind hazard exceedances. Due to the configurations of the two alternatives, neither alternative should cause a new wind hazard exceedance.

Alternatives with Cumulative Development

In 2003, the number of buildings under review by the Planning Department ("pipeline" buildings) was much less than at the present time, so that cumulative scenario differed from the cumulative scenarios in the 2004 test. However, results of the many cumulative scenarios tested have much in common, namely that the cumulative tests generally demonstrate wind speed decreases and decreases in the duration of wind hazard conditions. However, specific high wind conditions may not be affected by cumulative development.

The 2003 cumulative scenario, as compared to the 2003 project, resulted in wind speed increased at 16 locations, unchanged at 9 locations and decreased at 17 locations. The highest wind speeds in the vicinity (19 mph) continuing to occur in front of the Sailors Union of the Pacific building located at the northeast corner of Harrison and First Streets. Under the 2003 cumulative scenario, there would continue to be no wind hazard exceedances.

The 2004 test included cumulative scenarios with more high-rise development than in the single 2003 cumulative scenario. The wind effects of these three newer cumulative scenarios were similar to and generally improved compared to the wind effects of the 2003 cumulative scenario.

Considering the specific effects expected from the "Existing Zoning" or the "Preservation" alternative (as discussed above), it is expected that the net result under any of the three 2004 cumulative scenarios would be similar to or improved compared to the effects of the "Existing Zoning" or the "Preservation" alternative alone.

Thus, either of the "Existing Zoning" or the "Preservation" alternatives, together with any of the three 2004 cumulative scenarios, is not expected to result in any wind hazard exceedances.

B-3. TECHNICAL MEMORANDUM: WIND TUNNEL MITIGATION TESTING

TECHNICAL MEMORANDUM

TO: **Carol Roos**
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FROM: **Charles Bennett**
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DATE: **December 3, 2004**

SUBJECT: **Wind Tunnel Mitigation Testing – One Rincon Hill Development, San Francisco (ESA 204404)**

The first part of this memorandum presents and discusses the results of a series of wind tunnel mitigation tests for the One Rincon Hill development at 425 First Street, in the block bounded by First Street, Harrison Street, the Harrison Street Off-ramp and the Bay Bridge, in the City of San Francisco.

The second part of this memorandum compares a revised design of the One Rincon Hill project and evaluates it's potential to mitigate the adverse wind effect of the project.

Introduction

A series of wind tunnel tests were carried out in a workshop format in an attempt to mitigate the project's public wind hazard exceedance created at wind study location 19, the entrance to the east Tower (Tower 2) of the One Rincon Project. Since the SW wind direction contributed most to the hazard exceedance, that predominant wind direction was the only direction that need be studied in the workshop session.

Through a series of trial runs of the wind analysis computer code, it had been determined previously that it the contribution of the SW winds would have to be reduced to below an R-value[1] of 0.58 in order for the wind hazard to be eliminated.

The goal of the mitigation development was to identify design or other mechanisms that would dissipate or redirect the wind that would otherwise reach the entrance of the east Tower and thus to reduce the wind speed and turbulence sufficiently that the equivalent wind speeds would not reach or exceed the Planning Code's wind hazard level.

The test strategies all began with the design as originally tested in the wind tunnel in July 2004 and ranged from the simple to the extreme, in order to determine the building elements that were the source(s) of the undesirable winds and to develop effective mitigations.

A revised project design was prepared by SCB Architects, in response to the findings of the wind tunnel mitigation workshop. The revised design incorporates essential elements of the most effective mitigations found in the workshop.

Summary

Workshop

Three of the 26 project configurations tested in the wind tunnel satisfy the criterion of R-value less than 0.58. Of these three configurations, one cannot meet the basic development objectives of the project, since it eliminates the east Tower (test 19-18; R=0.435). However, both of the other two configurations do meet the criterion of R-value less than 0.58 and meet the basic development objectives of the project. These two are as follows:

Test 19-24; R=0.412. Rotation of east tower; 6 trees along Harrison St.

Test 19-26; R=0.559. Upwind wedge on east Tower, 6 Trees along Harrison St.

In addition, another configuration comes within the limits of testing uncertainty to meeting the criterion, meets the basic development objectives of the project, and may be satisfactory:

Test 19-25; R=0.586. No rotation of east tower, 6 Trees along Harrison St.

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[1] The R-value is the ratio of the equivalent wind speed (defined in the Planning Code) to the undisturbed free-stream wind speed at an elevation high above the ground (defined for the wind tunnel tests as *Uref.* as shown later in Table 2).

The testing that was conducted demonstrates that the adverse effects of the project design can be mitigated to meet the wind hazard criterion and still allow the project to meet its basic development space objectives.

Compliance of the Revised Project Design

The revised design incorporates four essential mitigation strategies from the workshop, namely:

1) East Tower modifications – skewing the west face of the tower by 15 degrees (item 2d) to direct wind away from Harrison Street, upper-level canopy (item 2a) and wind gutter (item 2b);

2) Vertical wind screens or fins (item 2c) on the townhouse units, to separate and slow winds along Harrison Street;

3) Arcade (item 2e), where building is at ground level; and,

4) Large street trees along the Harrison Street frontage of the building (item 2f). The trees proposed are Brisbane Box trees, with a height of about 40 feet and a spread of 25 feet at maturity, planted on 18 foot spacing in two groups of four and 5 trees along Harrison and 8 along the Harrison Street Off-ramp. Although these will be approximately 18 feet tall with a spread of 9 to 10 feet when planted, they still would not provide full wind protection for pedestrians immediately.

The revised design incorporates all of the essential elements of the mitigation strategies developed in the workshop. As a result, I conclude that the revised design would reliably match, or even better, the wind performance of the most-similar configuration, Test 19-26. Thus, because the tested configuration met the requirements for eliminating the project's wind hazard, I conclude that the revised design also would eliminate the project's only public wind hazard at location 19 and eliminate that significant adverse effect of the project.

Test Results

Tables 1 and 2 present the mitigation strategies that were tested and the data and results from the 26 individual tests that were performed during the workshop session. Table 1 Identifies the test conditions and presents the resulting R-values.

Table 1: Wind Mitigation Tests and Resulting R-values

Test ID	Mitigation Description	Lower canopy	Corner Upper Canopy	4 Vertical Fins (along Harrison frontage)	Arcade near #19	Wind Gutter above upper canopy	Photo ID	SW Wind Direction Test ID	SW Wind Direction R-Value
19-01	Lower horizontal canopy	x					19-01	19-1	0.7130
19-02	Lower canopy + Corner upper horizontal canopy + notch tower above	x	x				19-02	19-2	0.7203
19-03	Lower horizontal canopy + 4 vertical fins	x	x				19-03	19-3	0.7641
19-04	4 Vertical Fins only			x			19-04	19-4	0.7550
19-05	Vertical Fins + extended corner upper horizontal canopy		x	x			19-05	19-5	0.6857
19-06	Extended upper horizontal canopy only		x				19-06	19-6	0.7425
19-07	Vertical Fins + 3/4 length upper horizontal canopy		x	x			19-07	19-7	0.7255
19-08	Vertical Fins + one added fin near First St. + Partial horizontal canopy		x	x			19-08	19-8	0.6739
19-08	repeat		x	x			19-08	19-8.2	0.6925
19-09	Vertical Fins + one added fin near First St. + Larger horizontal canopy		x	x				19-9	0.7204
19-10	Added large mass 40x40x40 above podium at corner First & Harrison Sts		x	x				19-10	0.6613
19-11	Horizontal fins spaced vertically up the shafts of towers		x	x				19-11	0.7076
19-12	Arcade at street level near point 19 + horizontal canopy		x		x			19-12	0.7025
19-12.2	Arcade at street level near point 19 + extend upper horizontal canopy		x		x			19-12.2	0.8141
19-13	Extended upper canopy + fins + arcade		x	x	x			19-13	0.7387
19-14	Extended upper canopy + wind gutter above + fifth vertical fin		x	x	x	x	19-14	19-14	0.7506
19-15	Shorten west tower by 1/2, (Tower #1)				x	x		19-15	0.7105
19-16	Remove west tower, (Tower #1)				x	x		19-16	0.6923
19-17	Shorten east tower by 2/3, (Tower #2)				x	x		19-17	0.6877
19-18	Remove east tower, (Tower #2)		x	x	x	x		19-18	0.4348
19-19	Rotate east tower CCW, approx 15 degrees		x	x	x	x	19-19	19-19	0.6535
19-20	Rotate east tower CCW, approx 30 degrees		x	x	x	x		19-20	0.6235
19-21	Rotate east tower approx 15 degrees CCW + upwind wedge		x	x	x	x		19-21	0.7425
19-22	Rotate east tower CCW approx 90 degrees		x	x	x	x		19-22	0.6740
19-23	Rotate east tower CCW, approx 90 degrees. Remove verticals and canopies				x	x		19-23	0.6748
19-24	Rotation + Vertical blade fin on east tower + 6 trees		x	x	x	x	19-24	19-24	0.4122
19-25	No rotation, Six Trees, 35x35', along Harrison frontage		x	x	x	x		19-25	0.5860
19-26	Six Trees 35'x35', along Harrison frontage + upwind wedge		x	x	x	x		19-26	0.5593

Table 2, following, presents the details of the test data, including: mean velocity, Umean, in meters per second (m/s); root-mean square velocity, Urms, in m/s; equivalent speed, Ueq, in m/s; the R-value and the turbulence intensity, TI, as a percentage, %, of mean velocity.

As can be seen from Tables 1 and 2, only three of the 26 tested configurations yielded R-values that fell below the workshop objective of 0.58. These are tests 19-18, 19-24 and 19-26. However, another configuration, from test 19-25, comes close, within the limits of testing uncertainty, to meeting the criterion.

Table 2: Wind Mitigation Testing Data Detail and Resulting R-values.

SW Wind Direction		Data detail						
Test ID	R-Value	Point#	U_{mean} (m/s)	U_{rms} (m/s)	U_{eq} (m/s)	R	TI (%)	U_{ref} (m/s)
19-1	0.7130	19-1	2.1358	0.4159	2.3335	0.7130	19.47	3.2729
19-2	0.7203	19-2	2.136	0.4123	2.3261	0.7203	19.3	3.2246
19-3	0.7641	19-3	2.1746	0.4672	2.4663	0.7641	21.48	3.2277
19-4	0.7550	19-4	2.1705	0.4631	2.455	0.7550	21.33	3.2517
19-5	0.6657	19-5	1.8002	0.4474	2.1672	0.6657	24.85	3.2557
19-6	0.7425	19-6	2.1221	0.4554	2.4079	0.7425	21.51	3.243
19-7	0.7255	19-7	2.0646	0.4382	2.3444	0.7255	21.02	3.2315
19-8	0.6739	19-8	1.5784	0.4456	2.2236	0.6739	23.88	3.2395
19-8-2	0.6925	19-8-2	1.9467	0.4554	2.2847	0.6925	23.39	3.2395
19-9	0.7204	19-9	1.9514	0.4846	2.3464	0.7204	24.83	3.2583
19-10	0.6613	19-10	1.9049	0.4033	2.1482	0.6613	21.17	3.2486
19-11	0.7076	19-11	1.9761	0.4479	2.2696	0.7076	22.67	3.2355
19-12	0.7025	19-12	1.8759	0.4902	2.3101	0.7025	26.09	3.2885
19-12-2	0.8141	19-12-2	2.1357	0.5821	2.6772	0.8141	27.26	3.2885
19-13	0.7367	19-13	1.9553	0.5191	2.4228	0.7367	26.55	3.2885
19-14	0.7506	19-14	2.0206	0.5135	2.4684	0.7506	25.71	3.2885
19-15	0.7105	19-15	1.9052	0.4942	2.3365	0.7105	25.94	3.2885
19-16	0.6923	19-16	1.8253	0.4919	2.2765	0.6923	26.95	3.2885
19-17	0.6877	19-17	1.839	0.4901	2.2616	0.6877	27.09	3.2885
19-18	0.4348	19-18	1.0654	0.3359	1.4297	0.4348	31.59	3.2885
19-19	0.6535	19-19	1.7025	0.4712	2.1491	0.6535	27.68	3.2885
19-20	0.6235	19-20	1.7223	0.4169	2.0503	0.6235	24.2	3.2885
19-21	0.7425	19-21	2.054	0.4955	2.4418	0.7425	24.12	3.2885
19-22	0.6740	19-22	1.7574	0.4856	2.2166	0.6740	27.63	3.2885
19-23	0.6746	19-23	1.6646	0.4509	2.219	0.6746	24.18	3.2885
19-24	0.4122	19-24	1.0388	0.3159	1.3554	0.4122	31.61	3.2885
19-25	0.5860	19-25	1.5706	0.4079	1.8271	0.5860	25.97	3.2885
19-26	0.5593	19-26	1.3572	0.4256	1.8393	0.5593	30.75	3.2885

Discussion and Conclusions

Towers. A series of tests clearly indicates that the adverse winds that affect location 19 are primarily developed in the lower portion of the east Tower (#2). Removal of all or portions of the west Tower (#1) had a negligible effect (beneficial or adverse) on wind speeds at location 19, as did removal of the top 2/3 of the east Tower (#2). On the other hand, removal of the remainder of the east Tower dropped the wind speed R-value to 0.435, the second lowest value measured in the test series. As noted, the test configuration for this result also included other elements, including the Arcade.

Testing showed a substantial benefit from rotating the east Tower 90 degrees counter-clockwise, to significantly decrease the area of that Tower that faces directly into the SW wind. A similar, but smaller benefit resulted from rotating the tower counter-clockwise by 15 to 30 degrees or from adding a wedge of material to the Tower to cause winds to be deflected to the south and around the tower, rather than to be allowed to flow down onto Harrison Street.

Additional tower modifications that were tested include an upper-level canopy, at the height of the top of the townhouses, and a 2-story high and 10 feet deep wind gutter, a horizontal cut into the face of the tower above the upper-level canopy. Of the two modifications, the upper-level canopy was more effective at reducing wind speeds at location 19, but both together could contribute to an effective mitigation plan,

Arcade. Adverse winds at location 19 are affected and diminished by the Arcade at the base of the east Tower (#2) and which is a part of the project. The Arcade provides space for wind flow and tends to slow the winds. However, its effectiveness depends on the presence of other features. Although the testing did not conclusively demonstrate the effectiveness of the Arcade, it is believed to be an important component of an effective mitigation plan.

Vertical Fins. Four vertical fins were added along the Harrison street townhouses. These fins provided noticeable reductions in wind speeds at location 19, but alone did not provide enough reduction in R-values to eliminate the wind hazard condition. However, the vertical fins are believed to be an important component of an effective mitigation plan.

Street Trees. Adding large street trees along the Harrison Street frontage significantly decreased the wind speeds at location 19. Although the street trees alone are not considered sufficient to eliminate the wind hazard at location 19, large non-deciduous street trees are believed to be an important component of an effective mitigation plan.

Other Structures. A number of other structures were wind tested in the study, but the items not mentioned above were not considered meaningful potential contributors to an effective mitigation plan.

Compliance of the Revised Project Design

Revised Design Elements

The revised design incorporates all four essential mitigation strategies from the workshop, namely, tower modifications, the arcade, vertical fins on the townhouses and street trees. The item references in the following descriptions refer to the architectural sketches attached to this memorandum.

Tower. The revised design includes skewing the west face of the tower by 15 degrees (item 2d) to direct wind away from Harrison Street. The design also includes upper-level canopy (item 2a) and wind gutter (item 2b).

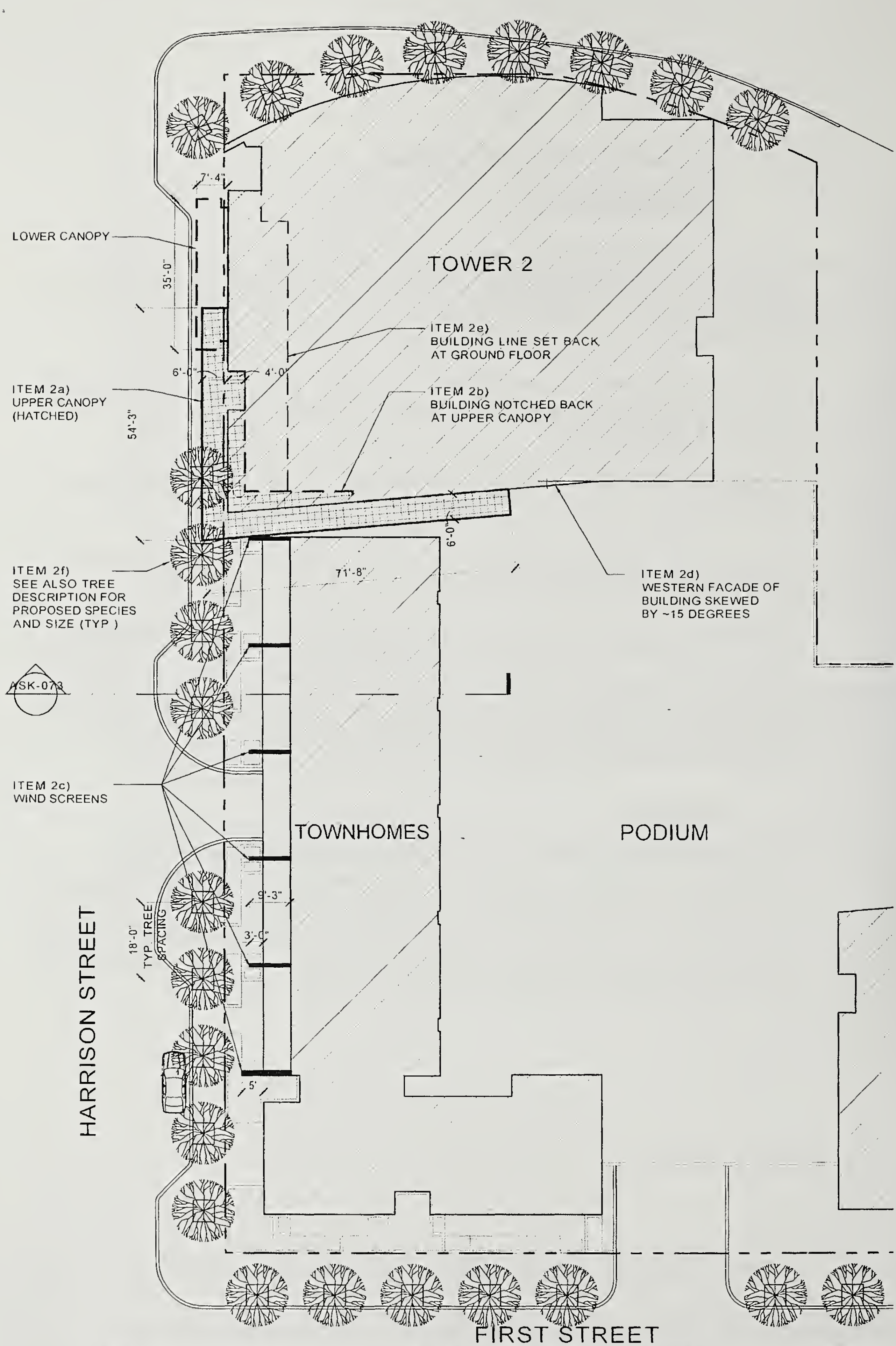
Arcade. The building is set back (item 2e) at the entrance to the east tower, where building is at ground level.

Vertical fins. Vertical fins or wind screens (item 2c) have been added on the townhouse units, to separate and slow winds along Harrison Street.

Street Trees. Large street trees have been proposed along the Harrison Street frontage of the building (item 2f). The trees proposed are Brisbane Box trees, with a height of about 40 feet and a spread of 25 feet at maturity, planted on 18 foot spacing in two groups of four and 5 trees along Harrison and 8 along the Harrison Street Off-ramp. Although these will be approximately 18 feet tall with a spread of 9 to 10 feet when planted, they still would not provide full wind protection for pedestrians immediately.

Conclusions

The revised design incorporates all of the essential elements of the mitigation strategies developed in the workshop. As a result, I conclude that the revised design would reliably match, or even better, the wind performance of the most-similar configuration, Test 19-26. Thus, because the tested configuration met the requirements for eliminating the project's wind hazard, I conclude that the revised design also would eliminate the project's only public wind hazard at location 19 and eliminate that significant adverse effect of the project.

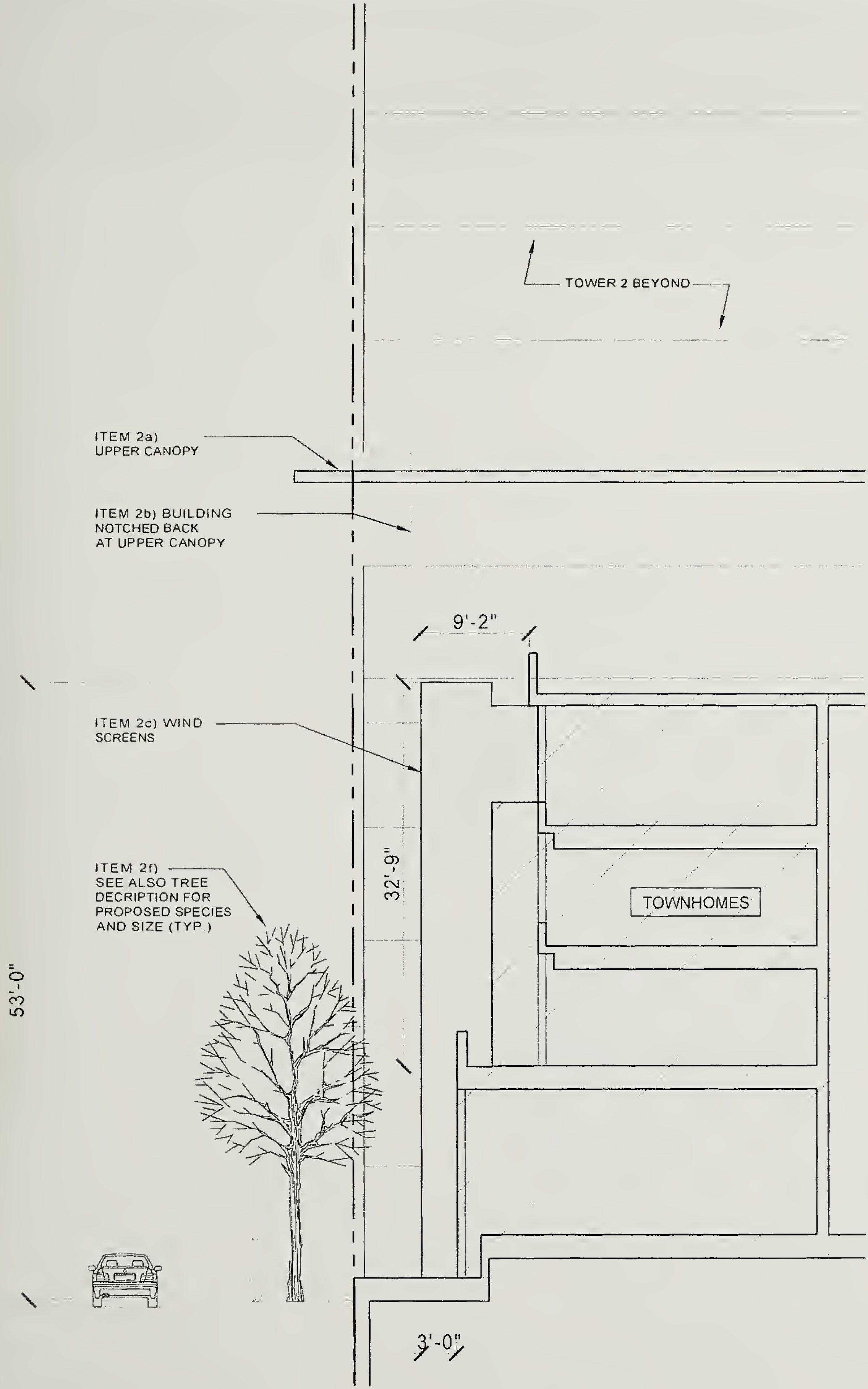


SCB

PLAN SHOWING WIND MITIGATION MEASURES
ONE RINCON HILL

11 17 2004

0' 10' 20'



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SECTION SHOWING WIND MITIGATION MEASURES 11 22 2004
ONE RINCON HILL
Urban West Associates

ASK-073

B-4. TECHNICAL MEMORANDUM: CONSIDERATION OF PROJECT EFFECT ON WINDS ON BAY BRIDGE

TECHNICAL MEMORANDUM

TO: **Carol Roos**
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FROM: **Charles Bennett**
Environmental Science Associates
225 Bush Street, Suite 1700
San Francisco, CA 94104

DATE: **December 6, 2004**

SUBJECT: **Consideration of Project Effect on Winds on Bay Bridge – One Rincon Hill Development, San Francisco CASE 2003.0029E (ESA 203078)**

This memorandum discusses the wind conditions at a location on the Bay Bridge deck that would result from the One Rincon Hill development at 425 First Street, in the block bounded by First Street, Harrison Street, the Harrison Street Off-ramp and the James "Sunny Jim" Rolph Bridge, commonly known as the San Francisco – Oakland Bay Bridge, in the City of San Francisco. The project's wind effects were evaluated for compliance with the Planning Code and the results were reported in ESA Technical Memorandum 203078, dated August 12, 2004.

Wind-tunnel tests were conducted for the existing, the project, and cumulative development test scenarios; thirty-two locations were studied, including 26 pedestrian locations, 5 locations on the project's podium, and one located on the deck of the San Francisco – Oakland Bay Bridge. These locations represent three different kinds of environments with three different use and protection requirements. The 26 pedestrian locations are on public sidewalks and open areas in the vicinity of the project and represent areas that the public may access freely. They are the locations that the Planning Code intends to protect by the mechanisms of Section 148 and Section 249.1(b)(3), which apply only to "areas of substantial pedestrian use" and "public seating areas" and are not intended to protect all locations. Thus, they do not apply to the five locations within the project's private open space. Although a public space, the bridge deck location is forbidden to pedestrians and clearly not intended for protection under the Planning Code. Thus, the August 12 Memorandum identifies and discusses wind conditions at the project's five private open space locations and the single Bridge deck location, but it does not consider them when evaluating project compliance with the wind criteria of the Planning Code.

Risk Considerations.

Although the wind criteria of the Code do not apply to roadways, nonetheless, this memo was written because there may be times when pedestrians may be on the Bridge at that particular location, due to an automobile accident or traffic tie-up. Statistically, it is not likely that this would occur at the same time as a hazard exceedance (6 hr per year) and there is no evidence to suggest that the identified exceedance would be sufficient cause an accident, but a chain of events could result in a chance that pedestrians could be present at that location at the same time as a wind hazard event was occurring; thus, it is worth considering the potential safety risks to those pedestrians.

Accidents and vehicle breakdowns occur with relative frequency on the Bridge, although not all at the same location, and some fraction of these events would result in people leaving their vehicles[1]. However, they would not be exposed to hazardous wind conditions unless there were unusually strong winds occurring over the Bay Area at that time. These would be the winds for which the National Weather Service has issued a High Wind Advisory or High Wind Warning for the Bay bridges. The National Weather Service definitions for these terms are:

> **High Wind**
> Sustained wind speeds of 40 mph or greater lasting for 1 hour or longer, or winds of 58 mph or greater for any duration.
>
> **High Wind Advisory**
> This product is issued by the National Weather Service when high wind speeds may pose a hazard. The criteria for this advisory vary from state to state.
>
> **High Wind Warning**
> These are issued by the National Weather Service when high wind speeds may pose a hazard or is life threatening. The criteria for these warnings vary from state to state.

Although the definitions of these terms do not match exactly those of the San Francisco Planning Code wind terms, they are close enough to allow meaningful comparisons.

As stated above, the NWS "High Wind" is quite similar to the range of wind speeds of 43 to 46 mph that would occur from 5 to 6 hours per year under the Project or Cumulative Development scenarios at location #7. These winds and their associated gusts can blow people over and so represent wind hazards for pedestrians. While this hazard condition was occurring, winds would

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[1] The occurrence of an accident or breakdown alone can directly result in serious injury or death to people in vehicles and in the roadway, as has occurred a number of times on the San Francisco – Oakland Bay Bridge, as well as other Bay Area bridges.

likely be noticeably stronger over most of the Bay Area's bridge spans, which, due to the increased elevation and location over the Bay itself, are completely exposed to the full force of those ambient winds. Thus, the condition that would occur at location #7 could also occur at a large number of locations along the length of the Bay Bridge during a High Wind Warning.

In such a situation, people exiting their vehicles would be aware of the wind and would have the opportunity to prepare themselves to deal with it. This is in contrast to a situation on City sidewalks, where a strong gust of wind can catch pedestrians unawares as they round a corner. Most people would be able to deal with the higher wind speeds successfully if they were to take advantage of the adjacent vehicles and bridge railings to provide protection from the full force of the wind and to provide handholds to allow measured movement.

The Golden Gate Bridge provides an example of pedestrians functioning in winds that can be strong at times. Pedestrian access can be limited by the Bridge Director, but otherwise when the Bridge is open, pedestrians are allowed on the Bridge from 5 am to 9 pm PDT during April through October and from 6 am to 6 pm PST November through May. The Golden Gate Bridge has been closed due to weather conditions only three times. 1) for three hours on December 1, 1951, as gusting winds reached 69 miles per hour; 2) for almost two hours on December 23, 1982, with high winds of up to 70 miles per hour; and, 3) for 3 hours and 27 minutes on December 3, 1983, when wind gusts reached 75 miles per hour. It is not known how many other times the bridge has been closed only to pedestrian traffic solely due to wind conditions.

Although a number of wind-related vehicular accidents have occurred on Bay Area bridges, with trucks and trailers being blown over, I am not aware if there are any cases of individuals on the bridges being seriously injured by winds alone.

Bay Area experience with the history of vehicle accidents and other factors resulting in pedestrian exposure to high winds on the bridges has not indicated that such exposure would present a substantial risk personal safety to persons on the Bay Bridge. The incremental risk posed is small because the increased wind speed at one location just adds to a much larger total current exposure on the Bay Bridge and the consequences of a person's exposure to the high wind conditions do not necessarily lead to injury.

CHAPTER IX

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PLACE
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San Francisco Planning Department
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Attn: Carol Roos, EIR Coordinator
2003.0029E – One Rincon Hill Residential Development Project

PLEASE CUT ALONG DOTTED LINE

RETURN REQUEST REQUIRED FOR FINAL
ENVIRONMENTAL IMPACT REPORT

REQUEST FOR FINAL ENVIRONMENTAL IMPACT REPORT

TO: San Francisco Planning Department
Office of Environmental Review

Please send me a copy of the Final EIR.

Signed: ______________________________

Print Your Name and Address Below

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San Francisco Planning Department
Office of Environmental Review
1660 Mission Street, 5th Floor
San Francisco, California 94103

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2003.0029E – One Rincon Hill Residential Development Project

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